

## INSIDE DOPE

by GEORGE F. TAUBENECK

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That's What the Man Said  
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Remember Ole?  
Who's Simon Pure?  
How Deep Is the Ocean?  
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Coaches Have Families, Too

### Happy Days—Without Strain

It can be proved that businessmen who have a sense of humor—and retain it no matter what pressures they're subjected to—get along better and faster than dignified "stuffed shirts."

The man who relieves and resolves tensions in a conference is a valuable fellow. Nine times out of ten he breaks the ice or checks the quarrel by telling a joke. Seven times out of ten that yarn should be related to baseball or football, because their appeal is so universal.

For what they may be worth to negotiators, we submit these yarns about football.

### Seats on the Fifty Yard Line

When "Red" Grange was running wild for the University of Illinois, defense after defense was plotted to hold him in check. Few worked.

Two scouts from Minnesota saw Grange make four long touchdown runs against Michigan in the first 10 minutes of that historic 39-14 game.

"I can't think of anything that will stop that guy," mourned the first scout.

"No? I can," chipped Scout No. 2.

"What?"

"A diploma."

### Dartmouth Darts

Al Russell, who caught plenty of passes as an end on Dartmouth's 1946 football team, tells us that another end on that club always prayed for victory before each game. This lad, a staunch Irish Catholic, uttered his short prayer at the dramatic moment when the Dartmouth eleven huddled, arms around shoulders, right before the kickoff.

The boys grew to depend on this little ceremony, Al relates, and always reserved a minute of silence for it.

Before the Holy Cross game in Boston, however, the praying Catholic remained mute in the huddle. When nudged by Al, he shook his head.

"Look over there in the stand," he mourned. "Over there on the 40-yard line. See all them priests? They're praying, too, and they got me outnumbered."

P. S.: Dartmouth won, 3-0.

Hidden deep in the dark recesses of Dartmouth college's huge library, according to Bob Tyler's Dartmouth football-star son, there's a statue of General Howe (a hero of the Revolutionary War).

When Dartmouth men entertain their dates at a long week-end party, young Bob reports, it is customary to escort the girls into the library and show them Howe.

### From Sacred to Profane

As on a spring training trip with the University of Illinois baseball team that the writer met Bill Alexander. This gentleman, scholar, and judge of good likker coached Georgia Tech football teams for more than a quarter of a century.

Zuppke, who'd gone along just for the ride, introduced us to Alexander. And the latter introduced us to "moonshine" corn whiskey (this happened in the Prohibition Era). To this day we can't decide which was more stimulating.

I told a grand story about picking up a jug of illicit "moonshine"

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## Reserve Board Wants Reg. W 'Left Alone' Until After Jan. 1

WASHINGTON, D. C. — With Chairman McCabe of the Federal Reserve Board stating his position that present Regulation W credit restrictions ought to be given a trial "until the middle of January, at least," the consumer durable goods industry will keep a watchful eye on the Congressional hearings on Regulation W which are scheduled to open next week.

The Federal Reserve Board official bases his contention on his feeling that the present credit restrictions should be given "at least a 120 days' trial."

It was also rumored that the board is planning further amendments to Regulation W that might require for electric housewares a down payment of 25% and six months to pay, with exemption for such items cut to \$10; and that heating stoves and space heaters might be brought in under "Group B" and that amendments might also be brought out to cover draperies, linoleum, luggage, bedding blankets, tableware, and other items.

Meanwhile the American Finance Conference convention meeting in Chicago reported that Regulation W is forcing many lower-income consumers out of the market for durable goods. Retailers auto financing volume has dropped 30% since Sept. 18 and may be down 50% by the end of the year, it was said.

## Servicemen Enjoying Upturn as Shortages Accent Repair Need

LONG BEACH, Calif.—Refrigeration servicemen are one group who seem to find a bettering of conditions because of the threat of production cutbacks, and the recent imposition of strict controls on credit.

That was the impression gained from discussions among members of the Refrigeration Service Engineers Society, meeting for their annual convention here.

One Texas refrigeration service company proprietor reported that his business in September was up 10% in contrast to the usual seasonal decline. He thinks the gain was the result of users being willing to pay a fair-sized sum to keep the old unit going, since the new credit restrictions have gone into effect making a large down-payment mandatory.

George Schuld, operator of a refrigeration maintenance firm in Cleveland for many years and a leader in the RSES organization, reported

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## Nema Sections Push Plans for 1951 Promotions

### Appliance Men See Sales Drive Need; Set Freezer, Range, Water Heater Plans

ATLANTIC CITY, N. J.—A 1951 that will probably present many problems for producers and retailers of refrigerators, home freezers, and other major appliances, counterbalanced by a generally rosy future that holds forth the promise of unlimited expansion, was forecast at the recent annual meeting of the National Electrical Manufacturers Association.

In spite of the Defense Program boom it will be necessary for major appliance dealers to sell harder than ever next year, top sales executives believe, and those sections of Nema that have promotional programs plan to make them bigger and better than ever next year.

"It is the consensus of our members that decreased consumer demand for major appliances will be a greater factor in limiting 1951 production than will the diversion of materials to preparedness needs, and it would appear that all branches of our industry, particularly those at the retail level, will have perhaps greater need than ever for strong and effective sales power," declared B. C. Neece, vice president of Landers, Frary & Clark, and newly elected chairman of the Major Appliance division of Nema.

"We must sell hard in 1951," Neece continued, "if we are to keep the living standards and the national income of our people high so that the increased taxes already imposed may be available to pay the increasing burden of a semi-war economy."

"It is important that, within the limits of this economy, sufficient materials be made available to all manufacturers for three specific

(Concluded on Back Page, Column 3)

## N. Y. Sales Perk Up For Week Ending Nov. 18

NEW YORK CITY—Retail trade here turned upward the week ending Nov. 18 for the first time in several weeks, according to reports here.

Despite the handicap of credit restrictions on certain hard lines, sales for the week were estimated to be at least 5% higher than during the corresponding week of 1949.

## Puzzled Dealers Report Appliance Sales Slump But Hesitate To Put Finger on Reg. W

By John O. Sweet and George M. Hanning

PORT HURON, Mich.—Sales of major appliances have declined in this community since Nov. 1 but it is doubtful if the stricter Regulation W is more than partially to blame, according to Port Huron dealers.

The NEWS interviewed six retailers in this "Thumb" district marketing center of 35,597 to determine how sales are being affected by the amendment to Regulation W which requires 25% down and payments to be completed in 15 months. Some dealers in other parts of the country have denounced the new regulations as unjust.

None of the dealers interviewed

here seemed greatly alarmed about the tighter terms. In fact, the majority said a modified Regulation W would actually be a good thing because it would put the appliance business on a sounder basis.

All dealers agreed that business had been hurt to some extent by the new controls and two stated flatly that white goods have been at a low ebb in November despite all promotional efforts.

But most of them, apparently confused as to why the sudden slump, said they thought Regulation W was only a contributory factor. They also blamed general business conditions, the Korean situation, and

worry of younger married couples about the draft.

To Darwin D. Kimball, owner of Kimball Radio & Appliance Store, the more severe controls simply means that the salesman must sell product rather than terms.

"Now is the time when salesmanship will really be tested," the veteran dealer declared. "Salesmen must give more complete demonstrations and do a better selling job than ever before."

"The store where the consumer gets the most complete sales story is the place where he's going to buy. You know yourself that anyone

(Concluded on Back Page, Column 1)

## Youngstown Code Sets Up Licensing Of Contractors

YOUNGSTOWN, Ohio—Adopting a new refrigeration code as part of a general revision of its building ordinance, the city council of Youngstown has voted to license contractors, thus becoming one of the very few cities where such licensing is required.

Safety requirements for refrigeration and air conditioning installations are covered in the ordinance, which adopts the ASA-B9 Safety Code for Mechanical Refrigeration.

As it now stands, the code is subject to amendments, which some contractors consider necessary before the ordinance will be completely satisfactory from their viewpoint. It was reportedly understood by all concerned that amendments would be enacted, if the ordinance were supported at its final reading.

An examining board created by the new ordinance is empowered to examine applicants for licenses and likewise to suspend or revoke such licenses after hearings. Membership of the board is to consist of two licensed refrigeration contractors, a member of the Building Inspection

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## West Coast Draws Biggest Crowd to Regional Meeting

LONG BEACH, Calif.—The largest refrigeration and air conditioning gathering ever to assemble on the west coast met here Nov. 16-19.

Focal point of this packed, busy week was the West Coast Refrigeration and Air Conditioning Educational Exhibit and Conference, staged

A report on the annual Refrigeration and Air Conditioning Contractors Association convention, and further reports and pictures on the West Coast Regional Conference, will be published in following issues.

jointly by the Refrigeration Equipment Manufacturers Association and the Refrigeration Service Engineers Society.

In addition, the Refrigeration Service Engineers Society, the Refrigeration and Air Conditioning Contractors Association, and the California Refrigeration Equipment Wholesalers Association met in annual convention.

West coast service engineers and exhibitors alike acclaimed the Educational Exhibit and Conference as

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## Materials Cuts To Really Hit '51 Production

### Copper Order Is Coming; Cobalt, Zinc, Plastic Cuts To Involve Appliances

WASHINGTON, D. C.—It is now becoming evident that limitations on civilian use of essential materials, both by direct government order and through the workings of the priorities system, will cut more deeply into the production of consumer durable goods than had been estimated previously.

One report said that "there was plenty of evidence last week that non-essential civilian business will, by next spring, get much less than it received this year and last year. The real facts are now coming out from Washington, although those in the trade knew the score some time ago."

Here's the story on some recent government moves which point up the serious problems that loom in materials:

#### COPPER

Representatives of the brass and copper wire mill products industries have met with National Production Authority officials to discuss provisions of a proposed order to distribute non-defense copper supplies in this country.

The proposed copper order would provide for the distribution of non-defense supplies of copper products on the basis of a percentage of the amount produced during the first six months of 1950. The percentage hasn't been set as this issue goes to press—but many think that it will be 30%.

#### COBALT

An NPA order this week calls for a 70% immediate cut in civilian use of cobalt, a mineral that is "highly essential" in the manufacture of radio and television sets, and also important to porcelain enameling firms. Since porcelain enamel is used in the manufacture of many major appliances and commercial refrigerators, restrictions on its use could have a definite limiting effect on production in these fields.

The order is an "interim" order, applying only on orders calling for delivery this month, but a longer-range program will be set up for December and the first quarter of 1951.

The NPA directive was addressed to the sole importer of cobalt, African Metals, Inc., New York City. It instructs the company to deliver to each buyer only 30% of the average monthly quantity received by the buyer in the first half of 1950.

#### ZINC, NICKEL, AND ALLOY STEEL

New regulations affecting three metals—alloy steel, zinc, and nickel—will probably be issued soon, the NPA has indicated.

The zinc order will probably be similar to the aluminum regulation, which put a ceiling on the amount of the metal each manufacturer can use for civilian production. The nickel order, it is thought, will be of the same kind. The alloy steel regulation will probably increase the amount of certain alloy steel products

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## ASRE Plans Honors for Developers of 'Freon'

NEW YORK CITY—Public recognition to the three men principally responsible for the development of the "Freon" family of refrigerants will be made by the American Society of Refrigerating Engineers during the 46th annual meeting of the society in New York City, Dec. 3 to 6.

A "Certificate of Recognition" will be presented to Thomas Midgley, Jr., posthumously, and to Dr. Albert L. Henne and Robert R. McNary on Tuesday evening, Dec. 5, at the Hotel Commodore in New York City.

C. F. Kettering, vice president and research consultant of General Motors Corp., who instigated the research that led to the discovery of "Freon-12" as a safe refrigerant, will make the awards.

The Awards Committee of the

(Concluded on Page 4, Column 4)



## Youngstown Code Licenses Contractor--

(Concluded from Page 1)

Department of the city, a member of the Fire Department, and an individual representing large users.

The ordinance also creates the post of Mechanical Refrigeration Inspector.

Applicants for a contractor's license, states the ordinance, "shall be at least 21 years of age, a citizen of the United States, and shall have at least three years practical experience at the trade." They must also pass a written examination.

A "grandfather's clause" is provided, however, which permits individuals or firms who can prove they were engaged at all times during the 30 days preceding effective date of the new law "in the business of installing, altering, or repairing within the City of Youngstown mechanical refrigeration systems, devices, or equipment for . . . which a permit is required" to be granted a license without examination.

License fees are established as \$50 for the first year and \$25 for each year thereafter. Applicants for a license must also post a \$1,000 bond.

The sections covering requirements for permits and installation fees is as follows:

### 2809.1—PERMIT AND PLANS REQUIRED

"(a) No person shall commence or proceed with the installation, alteration, replacement, or addition to any mechanical refrigeration system or part thereof in any building in the City of Youngstown until application has been made for a mechanical refrigeration permit, nor until such plans, specifications, and other information as may be required by the Mechanical Refrigeration Inspector for the proper enforcement of the provisions of this Code pertaining to mechanical refrigeration have been filed with the said inspector and the

mechanical refrigeration permit applied for has been issued by him.

"(b) 1. A permit shall be required for every new installation or alteration of a refrigerating system containing a Group 2 or Group 3 refrigerant. (For classification of refrigerants consult ASA B9.)

"2. A permit shall be required for every new installation or alteration of a refrigerating system containing more than 6 lbs. of a Group 1 refrigerant.

"3. No permit for a refrigerating system containing a Group 3 refrigerant shall be issued and no such system shall be installed except after approval by the Mechanical Refrigeration Inspector given upon submission of acceptable evidence that no public hazard will be created thereby. A refrigerating system containing a Group 3 refrigerant shall be installed in conformity with the provisions of this Code and in conformity with the conditions of approval specified by the Mechanical Refrigeration Inspector.

"4. No permit shall be required for repair of a refrigerating system.

"5. Where a permit is not required by this Code, such exemption shall apply only to the requirement for a permit and all installations, alterations, or repairs, whether made with or without a permit, shall be made in conformity with this Code.

### 2809.2—FEES

"(a) The fee for a permit for the installation of a 25 hp. or larger mechanical refrigeration system shall be \$25.

"(b) The fee for a permit for alterations to a 25 hp. or larger mechanical refrigeration system shall be \$10.

"(c) The fee for a permit for the installation of a 10-24 hp. mechanical refrigeration system shall be \$20.

"(d) The fee for a permit for

alterations to a 10-24 hp. mechanical refrigeration system shall be \$7.50.

"(e) The fee for a permit for the installation of a 3-9 hp. mechanical refrigeration system shall be \$7.50.

"(f) The fee for a permit for alterations to a 3-9 hp. mechanical refrigeration system shall be \$3.

"(g) The fee for a permit for the installation of less than a 3 hp. mechanical refrigeration system shall be \$5.

"(h) The fee for a permit for alterations to less than a 3 hp. mechanical refrigeration system shall be \$3.

"(i) No permit or fee shall be required for the installation of home freezers and refrigerators having motors of less than ½ hp. and used for the purpose of storing and preserving food.

"(j) Any and all fees for permits to be charged by virtue of any section of this Chapter, either in its present or in any subsequently amended form, shall be subject to an increase of fifty per cent (50%) in the event that the work for which the permit is required is commenced before said permit application is presented to the Mechanical Refrigeration Division.

"(k) On new or altered installations if the work is found defective, the mechanical refrigeration contractor in charge shall be notified and the defects shall be corrected within ten (10) days of such notice and the inspector shall again be notified for re-inspection. A fee of \$2 shall be assessed for second and subsequent re-inspection."

Development of the new ordinance was several years in the making and was drafted under the direction of E. C. Carlson, Westinghouse air conditioning distributor in Youngstown. A key man also was Ed. Wright, former president of the Refrigeration and Air Conditioning Contractors Association, who has been associated with Youngstown code activities since he assisted in preparing the first one back in 1929.

## High Cost Factor Seen Curbing Wide Use of Atomic Power

CHICAGO—The use of atomic energy as a source of heat or industrial power is certain to come but it is impossible at present to predict the exact date or type of process which will be used. This opinion was expressed before members of the Illinois Chapter, American Society of Heating and Ventilating Engineers, by Dr. Stuart McLain, a senior chemical engineer at the Argonne National laboratory and chairman of the steering committee for the materials testing reactor, one of the Atomic Energy Commission's post-war nuclear reactors now under construction in Idaho.

According to the speaker, more data must be accumulated before atomic energy can be used as a source of power. However, it is apparent, from a practical standpoint, that the key to such use is carrying on a chain reaction which would generate new fuel as the old or original fuel is used.

This "breeding" of energy would mean relatively insignificant fuel costs, though the overhead or investment costs would still be extremely high. While no breeding has yet been done, a breeder pile is now under construction.

In answer to the question as to why power plants are not being constructed now, Dr. McLain pointed out that security is a most important reason. He also said that most of the engineers and scientists connected with the atomic energy commission are now working on weapons or problems dealing with the use of nuclear energy in war.

He stressed the fact that during the Manhattan project a great many top engineers helped out, but most of these have returned to industry so that the government now needs the services of engineers experienced in the field of nuclear energy. The third reason given was the need for additional research and the development of cheaper plants.

Based on present experience, Dr. McLain believes that the cost of power from atomic energy would be considerably more than the cost from coal. Since the investment cost represents a large part of the power cost, cheaper plants must be developed. To date no real project has been undertaken for this purpose.

### New Orleans GECC Mgr. Named

DALLAS—Kenneth B. Abernathy has been appointed local manager in the New Orleans office of the General Electric Credit Corp., according to L. E. Scott, southwestern district manager here.

Abernathy, formerly credit and collection manager of the Chicago office, replaces H. J. Collins.

## Small Payments Will Hold Appliances at Joske's With Nothing Down

SAN ANTONIO—An "equity plan" that permits its customers to purchase appliances with "no money down" and small weekly or monthly payments was announced by Joske's department store here in a newspaper advertisement.

According to the advertisement, the plan included these five steps:

"1. Select the appliance you want.

"2. We store it for you with no down payment.

"3. You make small weekly or monthly payments.

"4. When your down payment is complete, we deliver the appliance.

"5. Your price is protected. Under this plan we guarantee the price at time of delivery will not be more than at the time of your selection."

## Air Conditioning Meeting Set for Texas Dec. 11-13

AUSTIN, Tex.—The Sixth Annual Southwest Air Conditioning Conference is slated to be held here at the University of Texas Dec. 11-13.

The conference will be directed by the University's College of Engineering in cooperation with Dallas, Houston, San Antonio, and Shreveport chapters of the American Society of Heating and Ventilating Engineers.

On the program will be Herman Blum, Charles Kribs, Jr., William Wendt, and Marvin Brown of Dallas; Harold Broadwell, Charles G. Crocker, and Andrew Rasmussen of Houston; Ira W. Wilke and University Faculty Members W. R. Woolrich and Wayne Long of Austin; A. J. Rummel and Harold Vagtborg of San Antonio; F. E. Giesecke of New Braunfels; B. E. Segall of Shreveport; Dr. Carl Dernehl of Texas City; and E. B. Covar of Tulsa.

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906-C	1/4 to 1/2	6	1/4"	2.85
909-C	1/2 to 3/4	9	1/4"	3.35
912-C	3/4 to 1	12	1/4"	3.85
			3/8"	4.10
918-C	1 to 1 1/2	18	1/4"	4.60
			3/8"	5.10
930-C	1 1/2 to 3	30	1/4"	6.85
			3/8"	7.10

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Cat. No.	Horse Power	Cubic Inches	Size of Flare Connections	List Price Each
809-C	1/2 to 3/4	9	1/4"	\$4.00
812-C	3/4 to 1	12	1/4"	4.50
			3/8"	4.75
818-C	1 to 1 1/2	18	1/4"	5.25
			3/8"	5.75
830-C*	1 1/2 to 3	30	1/4"	7.50
			3/8"	7.75
			1/2"	8.00
850-C*	3 to 5	50	3/8"	10.00
			1/2"	10.50
			3/4"	10.75
875-C*	5 to 7 1/2	75	3/8"	14.00
			1/2"	14.50
			3/4"	15.50

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SAGE-GREEN work uniform like this are available to UsAirco dealers for their servicemen.

## UsAirco Offers Dealers Servicemen Uniforms

MINNEAPOLIS — United States Air Conditioning Corp. is now offering to supply its franchised dealers with new sage-green work uniforms for their servicemen at a price lower than average retail, the company announced.

The uniforms consist of caps, gloves, unionalls, overalls, shop coats, pants, and shirts. All are made for the company by a nationally-known clothes manufacturer.

Servicemen can have their names sewn on above the shirt pockets. The name of the local dealer can be sewn on the back of the uniform, below the UsAirco insignia.

The arrangement enables the dealers to outfit their servicemen "uniformly, smartly, and economically," the company pointed out.

## Distributor Shows Dealers Benefits of Bus-Showroom

BIRMINGHAM Ala.—Dealers who would like to try a "rolling showroom" to expand refrigerator and other appliance sales, but are a bit chary of the expensive investment get a chance to learn first-hand what a bus-showroom can do for them, at R. P. McDavid & Co. here.

The McDavid firm, International Harvester distributor, has purchased a 22-ft. bus, remodeled it into a handsome showroom which can show a dozen home freezers and refrigerators in action, and loans it out "by appointment" to any of its dealers.

In the first 90 days of use, the bus was on display at no less than 20 REA Fairs, designed to introduce modern electric living to rural residents in Alabama, Tennessee, Georgia, and Florida. At some of these events, dealers who signed up for the bus reported record sales through preceding the REA lines into the country.

## Ailing Eateries Diagnosed--from Records to Refuse Removal

## Planning Service for 'Sick' Restaurants Sells Equipment

WASHINGTON, D. C.—One sure-fire means by which the commercial refrigeration dealer can increase his sales of restaurant and institutional refrigeration equipment, is to set up some type of service to help "sick businesses" get on their feet, according to M. D. Beline, of Abbott Refrigeration Co., Inc., here.

For the past year, the Abbott organization has offered restaurant owners in the nation's capitol the "Abbott restaurant planning service."

To make this a reality, every salesman on the company's staff has been put through a restaurant training course, which gives him a practical understanding of the problems of food preparation, storage, service, financing, architectural decor, menu making, etc.

On the staff are two "experts" who qualify in setting up any type of a food service organization and supervising it.

"Our restaurant planning service is open to any restaurant, who will logically be at some time a prospect for new commercial refrigeration," Beline said.

"All that is necessary is for the restaurant owner to telephone in, and ask that an experienced man be sent around. Our experts look over the entire organization, from books to final disposal of garbage.

"Being able to look at the restaurant operation from a detached standpoint, they can help out with practical suggestions on every phase of operation.

"Frequently, we find that it is obsolete, expensive-to-operate equipment, which is responsible for disappointing profits in any sort of restaurant. This, naturally, infers refrigeration, and usually rewards us with the sale of new equipment.

"However, even though there may be no prospect of replacing the re-

frigeration currently in operation, we spend as much time as required to put the restaurant back on the profit side of the ledger."

To date, every restaurant which has been "analyzed" in this way, has shown an increase in sales volume, after following Abbott Refrigeration Co. recommendations.

More than 80% of them, as well, have ordered new refrigeration equipment, after seeing how time, lost motion, extra expense, and other drawbacks, can be eliminated with the proper type of refrigerated equipment.

## Remodeled Market Air Cooled

DALLAS—Air conditioned throughout, the Fisher Food Mart, 4201-03 Oak Lawn, held its formal reopening Oct. 26 after being completely remodeled and expanded into super-market size.

## Chain Adds French Bread To 'Brown 'n Serve' Line

BUFFALO—Loblaws' food chain here is now offering French bread under its expanding "Brown 'n Serve" program.

The chain is promoting two freshly baked loaves of French bread in one package, calling them "French Twins." The loaves keep fresh for several weeks in the home refrigerator and indefinitely in the home freezer, the chain points out.

Loblaws is suggesting that customers buy several packages of the French bread loaves at a time and store them in their refrigerators.

## Kresge Unit Has Dessert Case

BINGHAMTON, N. Y.—A refrigerated wall display case for cream pies and desserts is a feature of the new fountain installed in the expanded S. S. Kresge store at Court and State Sts. Air conditioning is another feature of the remodeled store.



M17 (above). 76" long, 36" high (less display). 29" deep. Capacity 625 standard packages.



M26 (below). 107 1/2" long, 36" high (less display). 29" deep. Capacity 1040 standard packages.

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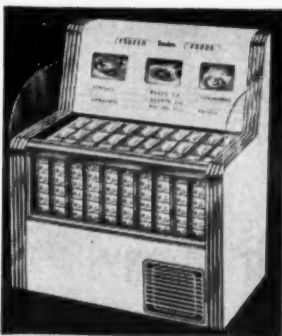


M9—54" long, 38" high (less display). 29" deep.

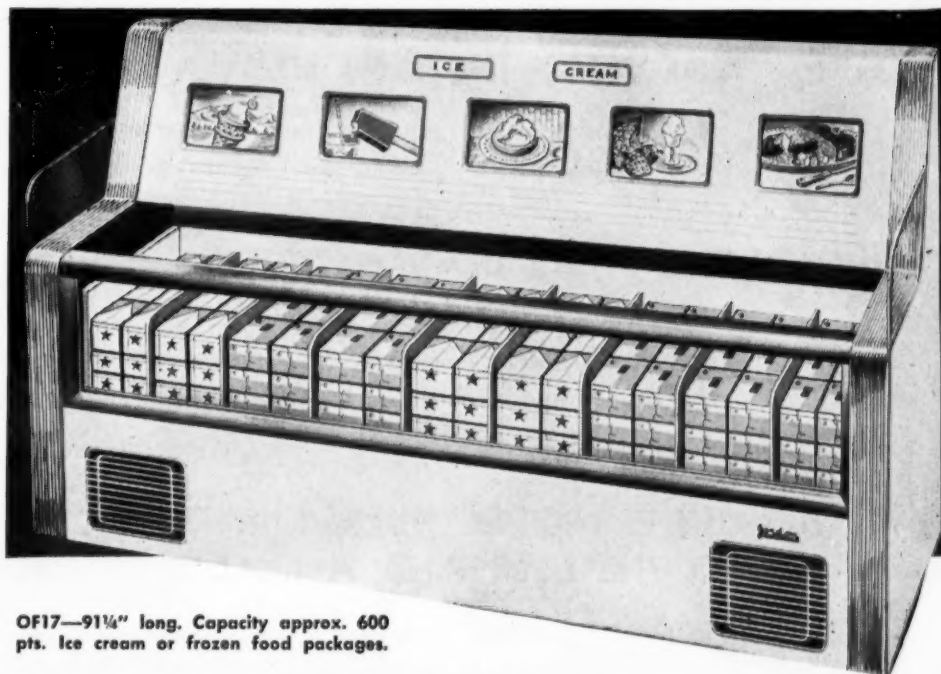
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Featured in the promotion plans of leading ice cream manufacturers and distributors. Features include: Quadruple, air sealed, Thermopane glass display front. Refrigerated plates plus wrap-around coiling. All welded steel construction with mar-proof auto-body finish. Full color illuminated display. Beautiful Slimline lighting. Extra wide top opening for full package display. Hermetic unit on pull-out tracks. 5 year warranty.



OF9—54 1/2" long. Capacity approx. 300 pts. Ice cream or frozen food packages.



OF17—91 1/2" long. Capacity approx. 600 pts. Ice cream or frozen food packages.

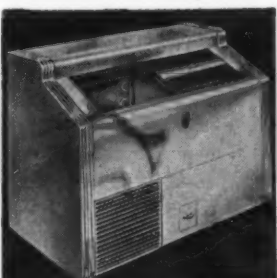
## NATIONALLY ADVERTISED! NATIONALLY ACCEPTED!

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Sell and Specify **JORDON!**

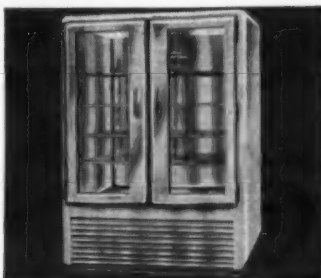
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**Jordon**  
AMERICA'S MODERN COMPLETE LINE  
**JORDON REFRIGERATOR CO.**  
Factory and Sales Division  
58th St. and Grays Ave., Phila. 43, Pa.  
CABLE: "JORDONREF" BEIgrade 6-4510

Exclusive Export Distributor  
CANNON & MILLER, 55 W. 42nd St., New York • Cable: CANANWILL



STAINLESS STEEL DRY BEVERAGE COOLERS. 12 to 37 case capacity. Remote or self-contained. Model 40—4'6" illust.



STAINLESS STEEL REACH-INS AND 2-TEMP REFRIGERATORS. Model SC30G with Thermopane doors illustrated.



SECTIONAL METAL-CLAD WALK-IN COOLERS AND FREEZERS for easy erection on location. Write for special catalog.

## FOR BETTER PERFORMANCE

Insist on



## HEAT TRANSFER EQUIPMENT

Recold manufactures heat transfer equipment for all applications above or below 32° F. and for every air conditioning requirement. Recold developed the well known water defrost coil and "Dry-Frost" principle in evaporative condensers and cooling towers.

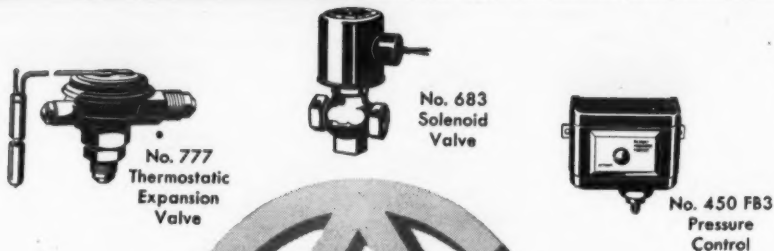
Write for information and Name of Nearest Distributor.

Refrigeration ENGINEERING, INC.

7250 E. Slauson Avenue  
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## demand DETROIT CERTIFIED VALVES and CONTROLS



**ONLY DETROIT  
BRINGS YOU ALL 3**

**For One Convenient Source  
Deal with Authorized  
DETROIT Wholesalers!**

**DETROIT**  
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DIVISION OF AMERICAN RADIATOR &  
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CONTROLS • ENGINE SAFETY CONTROLS •  
FLOAT VALVES AND OIL BURNER EQUIP-  
MENT • DETROIT EXPANSION VALVES AND  
REFRIGERATION ACCESSORIES • STATION-  
ARY AND LOCOMOTIVE LUBRICATORS

Serving home and industry AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS  
DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA INN

## Upturn for Servicemen--

(Concluded from Page 1, Column 2)  
doing more work in the last 10 weeks than he did all the past summer.

A Los Angeles service firm said that the increase in business in the early fall had brought the volume close to the wartime peak—which was nearly double that of his 1940 business. And this man thinks next year will break all records for him.

Another thing that cheers the operators of good-sized shops is that high factory employment levels are eliminating many of the "basement shop operators," independents who work alone or on a part-time basis, and who work at "cut-price" rates. One service shop operator in a mid-west city said he knew of six such places that closed recently.

## 9 Mos. Refrigerator Sales Total Reaches 4,622,679

NEW YORK CITY—September sales of household electric refrigerators by 16 firms reporting to the National Electrical Manufacturers Association pushed the total for the first nine months to a record high, figures released by the association have indicated.

The 4,622,679 units sold in the first nine months of this year shattered the industry's best record for an entire year—1948 when 4,172,144 were sold by 13 reporting firms.

The nine months total was 20% ahead of the entire year 1949.

September sales amounted to 535,002 units, 3% higher than in August.

## ASRE To Honor 'Freon' Pioneers--

(Concluded from Page 1, Column 5)  
ASRE selected the "Freon" development as the most important single contribution made in the last 20 years to the growth and advancement of the refrigeration industry.

"It was through the brilliant work of Midgley, Henne, and McNary that the substance (dichlorodifluoromethane), known today as 'Freon-12,' was determined to be non-toxic, non-flammable, and satisfactory as a refrigerant," the society said.

"It is fitting that Dr. C. F. Kettering make the presentation of the awards since he is the man who initiated the investigation for a safe refrigerant in 1928.

Midgley died Nov. 2, 1944. Before his death he received various awards and forms of recognition for his "Freon" development and other discoveries. Dr. Henne is today an associate professor in chemistry at Ohio State university and Robert R. McNary is at the Agricultural Experiment Station, College of Agriculture, University of Florida.

The convention program includes four technical sessions spread over three days. The first session is scheduled for 9:30 a.m. Monday, Dec. 4 and will be devoted to air conditioning topics. The second session,

slated for 2:30 p.m. Monday, will consist of a symposium on the heat pump.

The third session will be held at 9:30 p.m. Tuesday morning and the fourth at the same time Wednesday morning. Both these sessions will be devoted to a variety of topics.

The domestic refrigerator engineering conference—a continuation of the 1949 conference—will get underway at 2:30 p.m. Monday. Another feature, the room air conditioner conference, will convene at 9:30 a.m. Tuesday.

No conferences are scheduled for Tuesday afternoon. Instead trips to see the refrigeration equipment of the New York Steam Corp. and the United Nations Secretariat building air conditioning are planned. They will start at 2:30 p.m.

Most of the ASRE committee meetings are scheduled for Tuesday afternoon. A few committee meetings will be held on Sunday, Dec. 3, before the full program begins.

Vilhjalmur Stefansson will address Monday's welcome luncheon on "Natural Cold Storage."

The annual dinner-dance, featuring presentation of awards to the developers of a modern refrigerant, will be held Tuesday evening.

## West Coast Meeting Draws Big Crowd--

(Concluded from Page 1, Column 4)  
one of the finest ever staged. Over 1,600 service engineers from the west coast area attended the conference and toured the exhibition hall where 68 industry firms offered educational exhibits of their products.

A varied and interesting program highlighted the annual convention of the Refrigeration Service Engineers Society, Nov. 16-19. Starting the service-information meetings, Cyrus W. Miller, executive secretary of Refrigeration Industry Safety Advisory Committee, explained applications of the new ASA-B9 safety code for mechanical refrigeration.

Karl O. Werwath, president of National Council of Technical Schools and president of Milwaukee School of Engineering, outlined the trends in education in the refrigeration field. Werwath sees a definite trend to the training of "technicians"—not engineers. He also discussed such subjects as the accrediting of trade schools, differences between trade and technical schools, and on-the-job training.

George J. Schuld, chairman of the International RSES Safety Committee, talked on the all-important subject of safety as it pertains to the refrigeration and air conditioning servicemen in the field.

An illustrated slide lecture on "Basic Compressor Designs" was given by John Zant of Copeland Refrigeration Corp. Zant showed slides of various types of compressor design and gave a brief explanation of each.

Highly interesting to the serviceman and a subject of importance to them, F. Y. Carter, chief sales engineer of Detroit Lubricator Co., explained the various methods of removing moisture from refrigerating systems in the field. Carter told the servicemen of the methods which have been used and recommended those which have proved to be the most effective.

A general discussion regarding some of the new problems involved on open self-service refrigeration equipment was conducted by John H. Spence, service manager of Hussmann Refrigeration, Inc.

A talk of special interest to the servicemen was D. D. Wile's discussion of the selection and adjustment of controls for small air conditioning systems. Wile outlined in detail the various methods of control for air conditioning systems and recommended certain controls and adjustments for specific areas, depending upon the temperature and humidity of that particular geographical area.

Two talks on Sunday morning closed the RSES educational session. The first of these was an explanation of the automatic hot gas defrost system by Robert B. Holland, west coast representative for Kramer Trenton Co. The concluding talk was given by Gene Goebel, sales manager of Communications Div. of Motorola, Inc., who explained the obvious advantages of service organizations installing two-way radio equipment in their service trucks.

Election of officers for the coming year was held during the business meeting Nov. 18. Elected president of RSES was Cecil R. Visger of Kansas City, Mo. Other officers elected were C. W. Neisel, Corpus Christi, Tex., first vice president; J. D. Nall, Miami, Fla., second vice president; H. T. McDermott, Chicago, secretary; M. R. Hanks, San Diego, treasurer; and J. Marshall Lock, Toronto, Ont., Can., sergeant-at-arms.

The board of directors for the ensuing year will include H. J. Dike, Jr., San Anselmo, Calif.; George R. Klahn, St. Paul; Louis S. Levy, Washington, D. C.; Floyd Lilley, Chicago; W. E. Tierney, Worcester, Mass.; J. M. Turner, Montreal, Que., Can.; Einer Hanson, Flint, Mich.; John Mendell, Rochester, N. Y.; and Henry Gullatt, Atlanta, Ga. John H. Spence remains as chairman of the educational and examining board and Paul B. Reed continues as educational director.

## DO YOU NEED ADDITIONAL PROFITABLE PRODUCTS NOW?

*We have several territories open for:*

### 1. THE AJAX ELECTRIC ICEMAN

A field-proven automatic—attractive—compact—trouble-free Ice Cube Maker, manufactured by Servel, Inc. The large potential market is practically untouched.

### 2. THE AJAX INSTANT ICE MACHINE

Another field-proven, self-contained ice maker—capable of producing 2000 pounds of cold, clear flake ice every day.

### 3. THE AJAX DIAL-A-DRINK

A compact—beautiful in appearance—self-contained soft drink dispenser, delivering three different flavors of carbonated drinks plus carbonated water, all from the same dispensing head.

**ALL THREE PRODUCTS HAVE A TERRIFIC PROFIT STORY  
FOR THE USER AND A REAL PROFIT FOR YOU**

If you are interested in increasing your sales volume with added lines of equipment, if you are an established, reputable company with a going sales and service organization—then wire, phone, or write to

**AJAX CORPORATION**  
OF AMERICA

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NOW A SUBSIDIARY OF MERCHANTS DISTILLING CORP.

**Instantaneous  
Draught Beer Cooler**  
refrigerated faucets!

**Speed-Freeze**  
draft and  
bottle beverage  
coolers

write  
**IDEAL COOLER CORPORATION**  
2953 EASTON AVE., ST. LOUIS 8, MO.

for more  
**geemakers  
SALES**

... **FILTRINE**  
"Taste - Master"  
Demineralizer  
in the water line

Crystal ice... without sludge-forming rust, sediment, mineral residue... chlorine taste... "milky" taste. This is major source of service calls. Write for new literature.

**Filtrine**

FILTRINE MANUFACTURING CO.  
BROOKLYN 5, N. Y.





DEALER MEETING sponsored recently by Appliance Wholesalers, of Detroit, the "sloppy" way of handling service calls was contrasted with a more efficient, profitable method.

## Play Shows How To Lose Service Customers

DETROIT—Members and wives of the Greater Detroit RSES chapter had a different and highly entertaining meeting recently when Appliance Wholesalers, Inc., Gibson distributor, staged a four-act play showing how and how not to sell and service refrigerators and electric ranges.

Under the direction of H. Von Mach, sales manager in charge of the Gibson line, the cast evoked much mirth from the audience of 70, especially in the acts depicting the wrong way to do things.

For example, when "Mrs. Brown," played by charming Betty Boyle, complained to the "Lousy Service Co." that several days had passed since she first phoned for service, the "manager" of the outfit (played by Carl Beckman) explained in a surly manner:

"It's for sure that you don't know anything about how to keep track of a business. We've got a darned good system here for our calls. It never fails. We use a spindle, you see. Whenever a call comes in we write it on a slip of paper—if we can find one—and put it on the spindle. Then when we get around to go out on a call we start at the top of the spindle. The last one in gets taken care of

first. If your's is on the bottom that's your tough luck."

Finally, "Lousy Service" did get around to "Mrs. Brown's," and the "manager" started out beautifully by dropping his tool kit on her foot.

"Mrs. Brown" hadn't fared too well either, when she tried to buy a range from "Joe's." The owner of the store, Wm. Roddy, was too interested in doping out the "fifth at Narragansett" to do much more than quote the price of the range. In fact, "Mrs. Brown" knew much more about the product than he did, and had actually been pre-sold by a friend.

In contrast, Roddy did an excellent job of portraying the good serviceman who takes care of the complaint with dispatch and then resells the customer on the range. Delmer Pegler did an equally good job in showing how to handle a sale.

After the performance, which was staged in the auditorium of Appliance Wholesalers, refreshments were served by the distributor.

## 4 New Distributors Added By Refrigeration Sales Co.

LIMA, Ohio—Four new distributors have been appointed to handle the Universal line of refrigerators and home freezers, Harry M. Parsons, executive vice president of Refrigeration Sales Co., announced.

They are Douglas Distributing Co., Washington, D. C., which will cover the District of Columbia and part of Maryland; Old Dominion Distributors, Inc., Richmond, Va., the state of Virginia; Pugh Furniture Co., Charleston, W. Va., which has central and southern West Virginia; and Ajax Corp., Cincinnati, Ohio, with branches in Dayton and Columbus, which will cover those territories.

Universal refrigerators and freezers are manufactured for Refrigeration Sales Co. under contract.

## Hieatt Engineering Moves

BURBANK, Calif.—The Hieatt Engineering Co. has announced that its offices and plant are now located at 2228 N. Hollywood Way here.

## Study Shows How Proper Classification of Parts Can Cut Wholesaler Shipping Costs

WHITE SULPHUR SPRINGS, W. Va.—A study by wholesalers of refrigeration equipment and supplies in southern California revealed wide discrepancies in rates between suppliers and even between shipments from a single supplier, and considerable savings in freight costs can be realized if both manufacturers and wholesalers do something about the situation, it was pointed out by Merle Stutzman of Refrigeration Supplies Distributor, Los Angeles, in a report made at the recent annual meeting of Refrigeration Equipment Wholesalers Association.

"About a year ago," said Stutzman, "the wholesalers in Region No. 9 became aware of the fact that freight bills covering merchandise shipped from suppliers showed wide discrepancies in rates. A committee of three Los Angeles wholesalers was, therefore, appointed to study the problem and make recommendations which might help in reducing wholesalers' freight costs. The three wholesalers on the committee were Bob Shaw of Authorized Supply Corp., Al Reinach of United Commercial Sales Co., and Larry Roth of Refrigeration Service, Inc."

"Freight bills from suppliers shipping to all three wholesalers were compared, and two facts were immediately apparent. First, rates varied on the same commodity from different suppliers; and second, rates from a single supplier showed a variation from one shipment to another. Variation in rates was considerable and in one instance was \$2.20 per hundred pounds."

"A closer examination indicated that when rates varied, the descriptions of the commodity also varied. Freight forwarders advised that if descriptions on bills of lading did not fit an exact classification in the rate book, then railroad rate clerks applied a classification which seemed, at the time, to best fit the description."

"Since the rate book contains thousands of classifications, the reason for the variations was at once apparent. It seemed evident to the committee that suppliers' shipping clerks were not consistent in the description which they wrote on bills of lading. These shipping departments did not seem to realize that the rate on any particular shipment could be determined only from the description on the bill of lading, and that a slight change in wording could result in an improper classification being applied."

"As an example of this, a shipment from Detroit to Los Angeles merely classified as Brass Goods carried a rate of \$6.40 per hundred; whereas, the same commodity classified as Brass Valves carried a rate of \$4.88 per hundred, a difference of \$1.52 per hundred pounds."

"When the investigation began, the committee hoped to find classifications for the more important commodities which would result in mini-

mum rates for those commodities regardless of their point of origin. It was found, however, that this would not be possible.

"When railroads in some cities compete with other forms of transportation, the Interstate Commerce Commission frequently allows special rates for certain classifications. The most advantageous classification, therefore, must be determined for each supplier and for the various commodities which that supplier manufactures."

As a result of the committee's study, two recommendations were made:

1. That the wholesalers or their suppliers contact freight forwarders or the railroads and determine the lowest possible classifications under which specific commodities can be shipped from various points.

2. That suppliers instruct their shipping departments regarding the importance of the exact wording of freight classifications and make sure that the proper classification is written on bills of lading covering their outgoing shipments.

The committee felt, Stutzman said, that if all suppliers took advantage of the lowest possible rates on their products, refrigeration wholesalers as a group could realize freight savings amounting to many thousands of dollars annually.

## Air Conditions 20th Market

WAXAHACHIE, Tex.—Wyatt Food Stores have begun construction of a new air conditioned supermarket in the block between College and Jackson Sts. Wyatt's twentieth store will contain 12,000 sq. ft. of floor space.

## DOUBLE-TUBE COUNTER-FLOW CLEANABLE WATER-COOLED CONDENSERS

*This is the Business End of . . .*

HALSTEAD & MITCHELL

**Cleanable  
CONDENSERS**



Service Engineers and commercial users throughout the refrigeration industry are now specifying HM Condensers for replacement and conversion orders. These new HM units combine two features never before obtainable in tube-within-a-tube water-cooled condensers; (1) They're **CLEANABLE** . . . the water tubes are easily accessible at both ends for the spiral cleaning tool to restore the interior water surfaces to

"new-unit" efficiency. (2) A **TRUE-COUNTER-FLOW** relationship is achieved between the coolant and the refrigerant through a unique seamless copper tube-within-a-tube construction that makes obsolete most types of similar water-cooled condensers. Thus, water and space requirements are reduced substantially and a most economical operation is obtained.

JOBBERs in all principal cities carry HM condensers in stock for immediate delivery.



**Halstead & Mitchell**

OFFICES: Bessemer Building, Pittsburgh 22, Pa.

**TYPHOON**

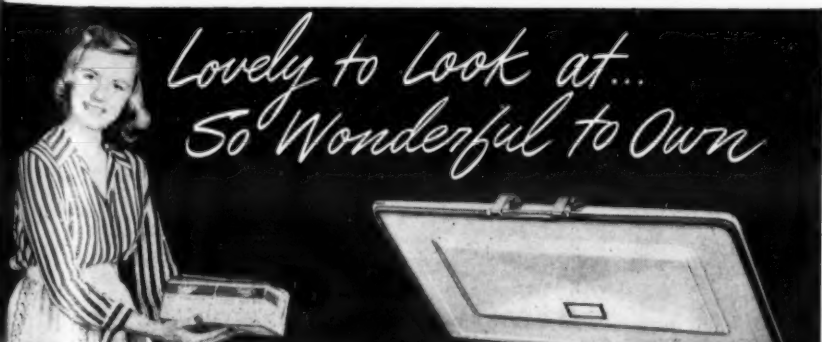
Most Complete Line of  
**AIR CONDITIONERS**  
in the most popular size range  
**1 1/2 TO 20 TONS**

**Evaporative Condensers**  
**3 TO 20 TONS**

Backed by more than 40 years  
of air cooling experience



**TYPHOON Air Conditioning Co., Inc.**  
794 Union Street, Brooklyn, N. Y.



*Lovely to Look at...  
So Wonderful to Own*

THE BEN-HUR FAMILY freezes leftovers—for welcome meal variety later. Avoids meal-monotony, and food-cost savings help pay for the freezer.

Important sales-clincher for Ben-Hur dealers is the copyrighted "Let's Prove It" form—an easy and sure way to prove extra food-cost savings for any family. Speeds up your freezer sales and profits. Write for details.



12.5 cubic foot size, holds up to 625 lbs. Others: 8.5, 16, 20 cubic foot.



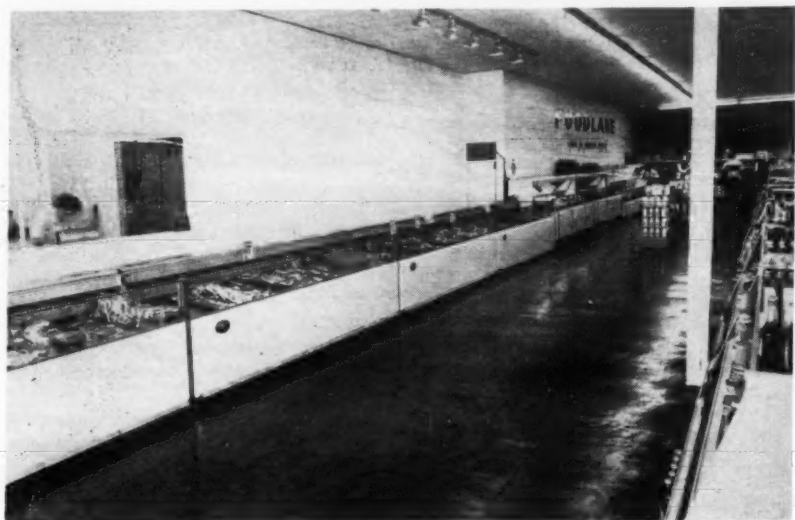
**BEN-HUR MFG. CO.**

Dept. C—634 E. Keefe Avenue, Milwaukee 12, Wisconsin

**BEN-HUR FARM and HOME FREEZERS**

HEALTHFUL LIVING THROUGH FROZEN FOODS





AMPLE ROOM before these self-service meat cases at the Foodlane market, Renton, Wash., permits the store's customers to (1) make leisurely selection of meat, (2) watch meat-cutting operation through glass window which is visible at left side of the picture directly behind the meat display case.

## Wide Lane In Front of Cases Helps Sales

RENTON, Wash.—Foodlane is the appropriate name given to a new supermarket here operated by Messrs. Cooper, Sharp, and Deeds, for as the accompanying photograph shows, there is really a lane of ample proportions located in front of the refrigerated self-service meat display cases.

The operators of Foodlane believe that ample aisle space is a "must"—and especially so in front of the self-service meat display cases if shoppers are to be given the "time

to make a leisurely selection" which is one of the several advantages claimed for self-service type of meat operation.

Another advantage of the wide aisle is that shoppers may also take time to watch the meat cutting and wrapping which is done behind a large glass window directly behind the meat display cases.

The Sherer meat and dairy cases in Foodlane were installed by Day & Nite Refrigeration Co. located in Seattle.



T. F. ELROD



S. L. FAUST

## Elrod In Crosley Atlanta Post; Faust Succeeds Him

CINCINNATI — Appointment of Thoben F. Elrod as manager of the newly-established branch of the Crosley Distributing Corp. in Atlanta, has been announced by W. A. Blees, vice president of Avco Mfg. Corp. and general sales manager of the Crosley division.

The Atlanta branch, to be placed in operation Dec. 1, brings to five the number of Crosley Distributing Corp. branches. Others are in New York City; Albany, N. Y.; Portland, Ore.; and St. Louis.

In connection with Elrod's appointment, Blees also announced the appointment of S. L. Faust to succeed Elrod as product manager of Crosley home and farm freezers. Faust was regional representative on freezers and refrigerators in the company's Kansas City office.

Elrod is well known throughout the Atlanta territory. A native of that city, he attended public schools there and obtained the B.C.S. degree from the University of Georgia. For several years prior to the war he was associated with the Atlantic Steel Co. and Hotpoint, Inc., as a sales representative in Atlanta.

Following the war, during which he served for three years as an officer in the U. S. Navy, he joined Deepfreeze as a regional manager.

Faust, the new manager of the section, joined the regional sales staff of Crosley 1949.

He had been with Deepfreeze for three years as district sales manager, and with Frigidaire and Kelvinator for nine years.

## Midwest Fixture Named In \$8,550 Court Case

LINCOLN, Neb.—A suit asking \$8,550 in damages has been filed in district court by the Serveall Food Market, 33rd and "A" Sts., against Midwest Fixture Co. of Lincoln for installing three refrigerated vending cases which allegedly were faulty.

Nate Bernstein and Howard Lotman, owners of the supermarket, charged that the cases installed in the store last spring did not preserve ice cream and frozen foods properly, and did not maintain proper temperatures during hot weather.

The three cases were of the same make as a series of refrigerated self-service fixtures purchased by the supermarket for vending pre-packaged meats, dairy products, and vegetables, and which reportedly have functioned satisfactorily.

The supermarket proprietors charged that the frozen food and ice cream cases were represented by the defendant company as sufficient for the store's needs. The company made several attempts to correct the defects but last July said it could do nothing further, the grocers allege.

The supermarket asks \$5,000 for loss of trade, \$3,200 as the purchase price of the three cases, \$300 for spoiled food products, and \$50 in reimbursements to customers.



## Dealer Uses Crane To Install Home Freezer

SECOND FLOOR APARTMENTS sometimes prove difficult places in which to install a freezer. That's what the G. E. Diller Co., of Princeton, Ill., discovered recently. It all began when a prospect who lived in a second floor apartment decided to buy an 11-cu. ft. home freezer. When the dealer's man got there with the freezer, he discovered that the apartment house stairway was too narrow for the freezer. Yet the freezer couldn't be installed on the sidewalk. So the Diller company promptly rented a crane, hoisted the freezer to the roof of the customer's apartment. From there it was pushed to a large window, lifted through, and lowered onto a back porch. WHEW! Albert Anderson, the customer, is shown giving the crane a helping shoulder as the home freezer was being eased onto the roof of the apartment building. A crowd of onlookers cheered him from the street below.



## NEW 1951 Self Service FROZEN FOOD DISPLAY CABINETS

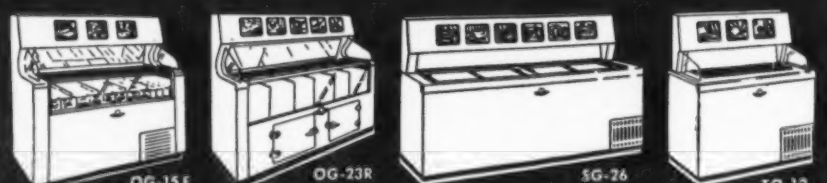


Model SG-20. Capacity 870 standard frozen food packages. Life-time construction of heavy gauge steel. High gloss, gleaming white finish. Full-color, three-dimensional photographs.



Sales-conscious business men catering to the public can't deny that beauty attracts. That is why ACE is their choice when they want to enjoy maximum frozen food sales. ACE cabinets are beautiful as well as super-efficient . . . and built to give years of trouble-free service. Frozen foods move at a terrific pace . . . if they are merchandised in an ACE! Literature on request.

### THE BUSIEST PLACE IS AROUND AN ACE!!



ACE CABINET CORP.

Executive Sales Offices: 110 East 42nd Street, New York 17, N. Y.

Export Dept.: 39 Broadway, New York 6, N. Y.

Manufacturers of Ice Cream Dispensing Cabinets, Home and Farm Freezers, Frozen Food Display Cabinets and Bobtails.

## world-wide acceptance

RANCO REFRIGERATION CONTROLS GIVING TROUBLE-FREE SERVICE THE WORLD OVER

Servicemen everywhere rely on Ranco when making either domestic or commercial refrigeration replacements —because they spend less time on the job, eliminate call-backs, make more money! Moreover, Ranco offers a specific control for every type replacement. Save shopping all over town. Visit your Ranco wholesaler today.



**Ranco Inc.**  
COLUMBUS 1, OHIO

WORLD'S LARGEST MANUFACTURERS OF REFRIGERATION CONTROLS



NEW RANCO REPLACEMENT REFERENCE NO. 1244

... Lists all refrigeration manufacturers, trade names, and the Ranco Replacement Control code number. Copies available only through Ranco wholesalers.

Every day, in every part of the world, more and more fountain dealers are turning to Everfrost for profit-making, easy to sell fountain equipment. There is just ONE reason — with Everfrost you can offer your customers more for their fountain dollar.

The Everfrost line includes a complete range (14 models) of self-contained fountains and luncheonette equipment. With Everfrost you can supply exactly the right unit for every type of installation.

These outstanding features, found on all Everfrost fountains, will make more sales, more profit for you:

- Deep drawn sinks
- Simplified plumbing
- No messy water bath
- All-dry refrigeration
- Everfrost Safety Pump
- All Stainless Steel Interior
- Low Installation Cost
- Everfrost self-contained pre-cooled Carbonator

Investigate the Everfrost line today—write for the complete catalog.

**ANDERSON & WAGNER INC.**  
8701 South Mettler Street • Los Angeles 3, Calif.



## August-September Refrigerator Sales Push 9 Mos. Total over 4.5 Million

Summary for August, 1950  
Complete Refrigerators Only—Sales by Sizes—Units  
AUGUST (16 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft....	261	....	....	261
2. 4 cu. ft. ....	3,847	....	146	3,993
3. 5 cu. ft. ....	....	....	....	....
4. 6 cu. ft. ....	43,195	720	3,933	47,848
5. 7 cu. ft. ....	88,521	39	5,714	94,274
6. 8 cu. ft. ....	134,493	81	5,444	140,018
7. 9 cu. ft. ....	108,469	50	2,702	111,221
8. 10 cu. ft. ....	53,992	42	1,372	55,406
9. 11 and 12 cu. ft. ....	63,600	57	1,563	65,220
10. 13 cu. ft. and up ....	108	....	10	118
11. Total .....	496,486	989	20,884	518,359

Summary for September and First Nine Months, 1950  
Complete Refrigerators Only  
Sales by Sizes—Units  
SEPTEMBER (16 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft....	338	....	....	338
2. 4 cu. ft. ....	3,412	....	280	3,692
3. 5 cu. ft. ....	260	....	....	260
4. 6 cu. ft. ....	43,974	....	3,073	47,047
5. 7 cu. ft. ....	86,347	732	4,413	91,492
6. 8 cu. ft. ....	150,097	279	7,412	157,788
7. 9 cu. ft. ....	103,655	438	2,999	107,092
8. 10 cu. ft. ....	56,353	85	1,709	58,147
9. 11 and 12 cu. ft. ....	67,611	....	1,457	69,068
10. 13 cu. ft. and up ....	78	....	....	78
11. Total .....	512,125	1,534	21,343	535,002

FIRST NINE MONTHS (16-13 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft....	2,074	....	244	2,318
2. 4 cu. ft. ....	30,728	....	2,813	33,541
3. 5 cu. ft. ....	354	....	2	356
4. 6 cu. ft. ....	471,459	1,406	31,920	504,785
5. 7 cu. ft. ....	557,370	1,035	27,059	585,464
6. 8 cu. ft. ....	1,520,551	440	43,749	1,564,740
7. 9 cu. ft. ....	972,187	697	14,835	987,719
8. 10 cu. ft. ....	389,019	479	8,349	397,847
9. 11 and 12 cu. ft. ....	525,795	61	8,175	534,031
10. 13 cu. ft. and up ....	11,813	....	65	11,878
11. Total .....	4,481,350	4,118	137,211	4,622,679

Participating companies: Admiral Corp.; Avco Mfg. Corp.; The Coolerator Co.; Deepfreeze Appliance Div., Motor Products Corp. (in 7-1-50); Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint, Inc.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co. (in 2-1-50); Norge Div., Borg-Warner Corp.; Refrigeration Div., Philco Corp. (in 8-1-50); Sanitary Refrigerator Co.; Seeger Refrigerator Co.; and Westinghouse Electric Corp.

## City Can't Afford Garbage Collectors So It Helps Promote Disposal Units

HERRIN, Ill.—City officials believe that the garbage disposer is the answer to the garbage-collection problem in this city of 10,000.

Mayor Fred Schoonover, Jr. announced that Herrin has purchased an initial shipment of General Electric garbage disposers for resale to householders at a special price of \$99.50 installed.

"Herrin can't afford a regular garbage collection and the individual disposition of garbage is so irregular in many cases as to be a disgrace to the city," the mayor said. "We've got a brand new \$300,000 sewage disposal plant and we should make maximum use of it."

He anticipates no difficulty in marketing the disposers, which went on sale Oct. 30 in the water department office in the City Hall.

Financing of the installation will be either on a cash or credit basis.

Householders who prefer time payments will make a down payment of \$9.95 to the water works department and, thereafter, will pay for their disposers at the rate of \$4.18 monthly. All transactions are between the city and the individual householder. The Bank of Herrin is underwriting the time transactions for the city.

City officials got the idea for installing garbage disposers from the successful experiment made in Jasper, Ind., earlier this year. In that city G-E disposers were sold to householders by the General Electric Supply Corp. of Louisville after the city council had outlawed garbage storage and collections within the city limits.

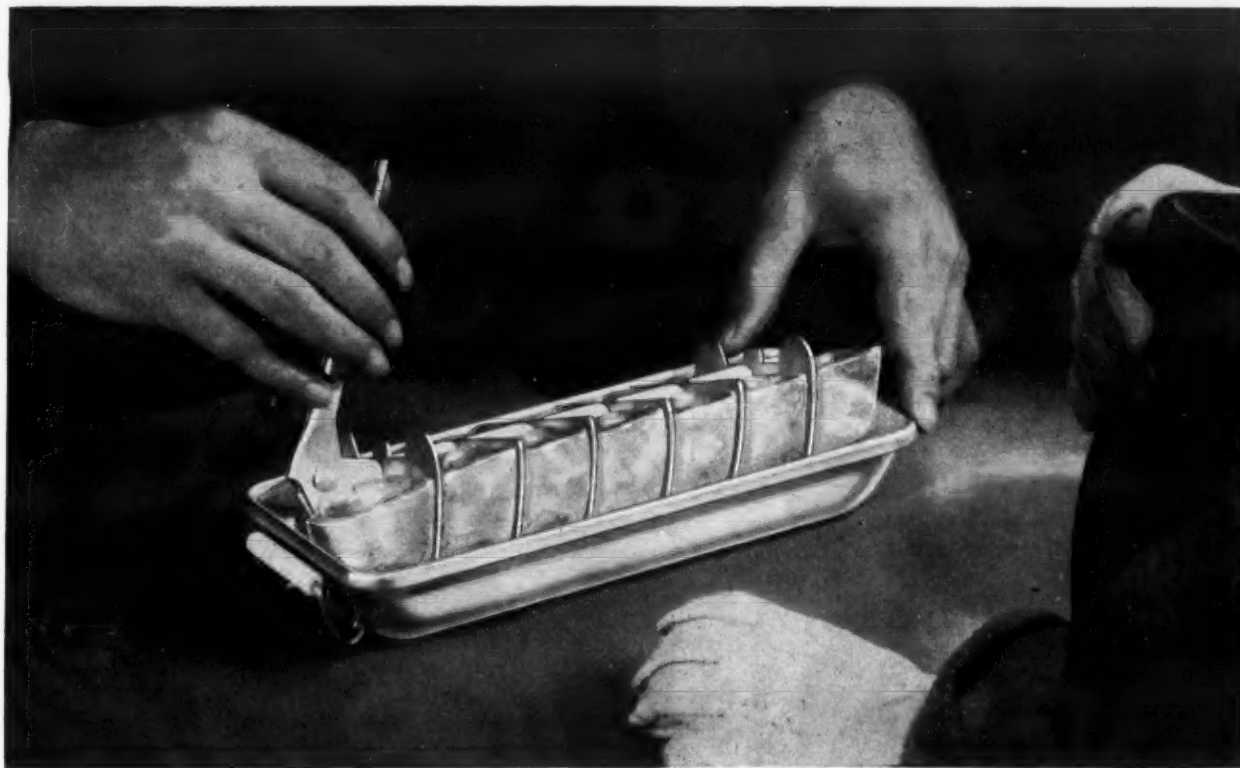
Another factor influencing the Herrin decision was the widespread installation of disposers in new houses by building contractors.

When a postcard survey by the Herrin water department indicated that a substantial proportion of the community was in favor of the disposer method of handling garbage, a plan was worked out under which the city placed an initial order for 100 disposers through General Electric Appliances, Inc., St. Louis distributor of G-E major appliances.

The White Electric Co., the General Electric dealer in Herrin, will handle the electrical installation and servicing, while McNeil Plumbing Co. will make the plumbing installation.

Gordon Roney, G-E commercial engineer who has supervised the mass installation in Jasper, went to Herrin to discuss the installations with the plumbers and to demonstrate the use of the boring tool which General Electric has developed to facilitate the installation of disposers in sinks with small drain openings.

City officials of several nearby communities are watching the experiment with keen interest, Mayor Schoonover said, and will follow suit if Herrin's experiment proves successful.



# HERE'S REAL HELP..

*in closing refrigerator sales!*

JUST DEMONSTRATE THE "ROCK-OUT" FEATURE  
IN INLAND "MAGIC TOUCH" ICE TRAYS

It's so simple and fast... and so convincing! Just slip a "Magic Touch" Tray from a refrigerator on the floor. Ask the prospect to watch. Raise the "Magic Touch" lever. Tilt the whole grid into the "Rock-Out" position. There! A whole row of free, dry, separate ice cubes... one or more to be used now, the rest later!

You'll close more refrigerator sales with this amazing demonstration... if the refrigerators you stock and sell come to you factory-equipped, completely, with "Magic Touch" Trays, all with the "Rock-Out" feature. Insist on that!

National magazine advertising helps you... a strong campaign, with a balanced appeal to men and women. Cash in on it. Take full advantage of this pre-selling. It will be working on every prospect who comes into your store.

Don't neglect replacement profits. They're easy, quick and big. Many of your customers have outmoded, inconvenient ice trays. Sell them "Magic Touch" Trays... for a profitable sale today... and to lead to a refrigerator sale later. Order Inland Magic Touch "Rock-Out" Ice Cube Trays from your refrigerator manufacturer or distributor.

New refrigerators fully equipped with  
Inland "Magic Touch" Ice Trays give  
your customers complete ice convenience

Show your customers this  
easy "Rock-Out" method



Raise "Magic Touch" lever



"Rock-Out" the grid



Use one or more cubes

## Depend on AUTO-LITE FOR TEMPERATURE INDICATION

Auto-Lite Thermometers are designed to give you the broadest selection for your needs: Priced low and precision-made for accuracy, these instruments point the way to temperature savings and help to prevent spoilage. Write for catalog showing the many styles and types of Auto-Lite Thermometers that are available.

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Illustrated, at top: Model G Indicating Thermometer, flush mounting type with capillary tubing for remote reading. Priced from \$18. At bottom: Model V Thermometer (vapor pressure type). Rigid stem for direct mounting. Priced from \$10.25.

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NEW YORK • CHICAGO • SARNIA, ONTARIO

**INDICATING & RECORDING THERMOMETERS**



# "Magic Touch" Ice Cube Trays

by **INLAND** MANUFACTURING

INLAND MANUFACTURING DIV., General Motors Corporation, Dayton, Ohio





## INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

that, when uncorked, almost knocked him for a loop with its aroma. Thoughtfully, he gave it to his stadium groundskeeper.

Three days later he encountered this Old Coot, and asked him if he'd enjoyed the corn likker.

"It was O.K., Mr. Alexander. Just right. Effen it'd been any better, you probably wouldn't give it to me. And effen it'd been wuss, I couldna stummicked it."

Another Alexander story in a similar vein:

Friend of his, on a hunting trip in the Tennessee wilds, unexpectedly looked into the business end of a double-barrelled shotgun. On t'other end was a grizzled mountaineer.

"See that there jug on the rock?" levelled the hillbilly.

"Yes, sir," grovelled the quailing huntsman.

"Take a drink outten it."

Alexander's friend did, and almost choked to death.

"Gad!" he spluttered. "That's horrible!"

"Ain't it, though?" agreed the mountain man. "Now," he continued, handing the shotgun over to the bewildered city feller, "you hold the gun on me till I drink 'er down."

### That's What the Man Said

Aggressive Wally Butts, Georgia's colorful coach appeared at a football luncheon in Atlanta on the Monday after his team had lost its fourth straight game.

"Had a rough time getting here," he quipped. "Could hardly tear myself away from that gingerbread schedule which some of you fellas said we had when we met last September."

"Never mind, Coach," consoled an old friend. "Even if your boys did drop nine out of 10 games, they were good losers."

"Good?" cried the Coach. "You mean perfect."

### After the Big Game

It was a great homecoming for the alumni. Alma Mater had edged out its traditional rival, 21-20, in a football game so packed with thrills and suspense that practically every one of the 60,000 spectators was limp—and needing a drink.

Milling through a humanity-packed exit was Old Grad Lushwell, who wanted a drink, too. He had a pint on his hip, but he was so entangled in the mob that he couldn't get his arm back to reach it.

The crowd inched forward so slowly that its movement was almost imperceptible, like that of a glacier. To Lushwell's immediate right was a little fellow whose head had been bent downward by the jam.

"Sir," the little fellow informed Lushwell, "there seems to be something wet leaking down your right leg."

"Gad," burped Lushwell, "it's blood, I hope."

### Remember Ole?

There's a legend told on every campus about a fictitious Ole Skjarsen, the fabulous fullback who couldn't be stopped.

In his freshman year Ole hogged the headlines every Saturday. Alumni began to worry lest all this publicity damage his career.

"Don't worry," the coach told them. "Ole can't read."

### Who's Simon Pure?

In a college where mid-term examinations affect athletic eligibility, a professor of mathematics flunked his school's leading halfback just before the three most important games of the season.

That horrible act put the coach in a desperate situation. Without the services of his ace passer, runner, and kicker, he knew that his entire offense would fall apart. So he visited this professor, with the flunkie in tow.

"You can't do this to me, or to our fair school," he wailed.

The math prof was unmoved.

"Friend coach," he replied, "this oaf simply doesn't belong in an institution of higher learning. And I'll prove it to you."

Turning to the dumb football player, he asked:

"How much is two and two?"

After deliberating for awhile, the athlete mumbled:

"Six."

"See what I mean?" smirked the professor.

"Why," protested the coach, "that

wasn't so far off. He only missed it by one."

Dr. Wilmarth H. Starr, head of the University of Maine's Romance Languages Department, ordered 20 copies of Victor Hugo's "Notre Dame de Paris" for a French literature class, according to a newspaper account.

When the order was fulfilled by a book wholesaler in New York 20 volumes of Frank Leahy's "Notre Dame: The T Formation" arrived.

Back in the days before the two-platoon system and bewilderingly rapid substitutions, Brown university fielded a team known as the Eleven Iron Men. Its starting eleven played every minute of every game on the schedule until the season's finale. In the third quarter of that last game a rugged tackle broke a leg.

Although his pain must have been awful, this proud Iron Man refused to be carried into the dressing room. He sat on the bench and yelled "moral support" to his teammates.

Somehow-or-other an inebriated female rooter managed to wend and weave from the stands to the Brown players' bench. Wrapping herself around this rugged tackle she hiccupped:

"Don't you care, big boy. The Coach ish friendamine. I'll she 'im and (hic) tell 'em to (hic) putcha inna game shoos sho you kin gitcher letter."

### How Deep Is the Ocean?

Dale Stafford, managing editor of the *Detroit Free Press*, covered sports events for many years before moving upstairs into an executive office. He has a rich fund of anecdotes about athletes.

There was the football player, for example, who couldn't swim. He was six feet nine, and hell on catching passes, but he never learned how to keep his head above water. Despite that, he applied for a job as a beach lifeguard one summer.

"Shorty," expostulated the Municipal Curator of Parks and Recreation Facilities, "if you can't swim how are you going to rescue people?"

"Take a look, sir," drawled the elongated end. "I can wade out a long way."

### And How High the Sky?

Younger sportswriters knock themselves out trying to think up new adjectives. They do this for two reasons, (1) to acquire a "style" and (2) because they get bored with the necessary repetition of standard terms, phrases, and names.

In the twilight of his distinguished career H. G. Salsinger of the *Detroit News* covered a football game at Ann Arbor alongside one of these Johnny-come-Latelies. Michigan had won, as usual, and both writers were pecking away on their portable typewriters.

"Mr. Salsinger," interrupted the young man, "you've been around here a long time, and maybe you can help me. I'm fresh out of names for this Michigan Club. Already I've used Wolverines, Wolves, Ann Arborites, Crislermen, Victors, Singewingers, Champions of the West, Maize and Blue, and I'm just getting into the fourth quarter summary. What else can I call 'em?"

"How about Michigan?"

"Gee whiz. Thanks. Didn't think of that."

### It Happened In Detroit

Edwin (Bud) Jeakle, who starred for Coach Charles Baer at the University of Detroit, was a freshman end in the Titan camp in 1946. After the first week of that season he was cut from the squad. As a sophomore in 1947, he managed to stay on the squad, but didn't letter.

The following year he audited his chances. Detroit had five lettermen ends returning for 1948—but only one quarterback. Right then and there, Jeakle decided he was a quarterback.

Coach Baer let him make the shift; and Jeakle abandoned his cinched first-base post on the Titan baseball team to go out for spring football practice.

Naturally, Coach Baer was impressed with Jeakle's determination to play football. He liked the kid's size, too, and his big hands, and his speed.

So Baer went to work to help Jeakle become a top-flight T formation quarterback.

Jeakle did, too. What's more:

Whenever the University of Detroit football team was asked to contribute a speaker for an Occasion, Jeakle was the man chosen, because he was a fast man with a pungent phrase as well as with a football.

As the U. of D. Squad's favorite storyteller, no pre-game huddle was complete in his era without a Jeakle yarn to relieve the tension that sometimes grips even the most experienced players.

His favorite story:

"All during the first half I sat on the bench," Jeakle would tell the boys, "waiting for Baer to call my name. When the third quarter opened I began to run up and down in front of the bench, warming up so Baer could see me. Nothing happened."

"By the middle of the fourth quarter I was getting nervous. Was it possible that Baer had forgotten? Finally, the scoreboard clock showed only two minutes to play."

"At the same time there was a whistle on the field. A Detroit man was hurt. It was Arch Kelly, a quarterback. I knew my time had come. Baer turned and yelled 'Jeakle!'"

"I grabbed my helmet, rushed up to him and stammered:

"'Yeah, coach, here I am. Do you want me to take in any instructions?"

"Baer looked at me bleakly and ordered: 'Kelly is hurt. Go out there and help carry him off the field.'"

### Coaches Have Families, Too

Few occupations are so hair-whitening as those which athletic coaches undertake. They have wives and families, like most other men, and naturally they want to feed and shelter them.

However, a ball's odd bounce, a missed tackle, or a confused signal can result in the firing of a coach, and uneasiness for his family.

Over a two-year span Clyde Smith, mentor of Indiana U's perennial "po' little boys," won only three football games.

At the close of the second disastrous season Clyde couldn't eat his dinner at home, he was so disconsolate.

"Don't worry, Dad," consoled his eldest son, "I got me a paper route yesterday, and Mom is knitting again. We'll support you."

Like most coaches Oregon's Kip Taylor has a knowing son, too. In 1949 Oregon fielded an outstanding halfback, Ken Carpenter. The latter performed magnificently against UCLA, but Oregon lost the game.

At home that night Coach Taylor's son quipped:

"You had one Carpenter and 10 plumbers in your line-up, Dad."



## She'll love the year-in, year-out dependability of its TECUMSEH Hermetic unit

Yes, she finds it easy to love the smart new refrigerator that has just entered her home. She loves it for its beauty, for its modern up-to-the-minute conveniences, its smooth, vibrationless operation.

But the nice thing about it is that she'll love it more and more as the years go by. For, long after it has lost its "brand newness", she will be loving it for the faithful service it has given through the years—thanks to the precision-built Tecumseh Hermetic Unit with which it is equipped.

For Tecumseh Hermetic compressors are famous the world over for their long-lasting, trouble-free performance, their low

operating cost. Here are just a few of the many reasons for their superiority:

Large, oversize bearings; counterweighted crank-shafts; super-finished bearing parts ( $\pm .0001$ ); Chiefstained connecting rods and pistons; simple and positive motor controls; leakproof motor terminals.

Many models include both fan-cooled and static condenser type units. In various combinations of compressors, motors and condensers, they cover the entire range of applications from  $\frac{1}{8}$  h.p. to  $\frac{3}{4}$  h.p.

Write for complete information.



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World's largest independent producer of compressors and condensing units for the refrigeration industry.

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"loss eliminators"

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Eliminate all losses from breakdowns—highest efficiency even at liquid temperatures up to 150°.

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Liquid Indicators Eliminate losses from leaking liquid indicators. E-Z to see through, leakproof, perfectly safe.

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Flare Nuts Eliminate losses from loosened and cracked flare nuts. Ideal for use anywhere in system.

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MAKE CTI GRADUATES THE MEN FOR THE BETTER JOBS

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An approved school to TRAIN Veterans and Non-Veterans  
Training in the heart of the South





CEDARS OF LEBANON hospital in Los Angeles uses a York machine to deposit flaked ice in covered stainless steel cabinets from which employees can quickly scoop it.



QUEEN OF ANGELS hospital has this smaller size flake-ice machine to supplement the output of its own ice plant.

## Flake-Ice Units Cut Hospital Ice Costs

LOS ANGELES—Greater assurance of sanitation and savings in labor are benefits gained by two Los Angeles hospitals which have installed York flake-ice machines, Bob Noll of Commercial Refrigeration Co. here, declared recently.

Noll's firm, which is actively soliciting business from hospitals for the York units, made the installations.

In one hospital, the Cedars of Lebanon, the flake-ice machine is hooked up with a series of stainless steel cabinets. The machine deposits the flaked ice into these cabinets through a covered outlet. Hospital employees then scoop the ice from the cabinets with stainless steel scoops and shovels and carry it away in stainless steel carts with tight fitting covers.

Another hospital, the Queen of Angels, purchased a flake-ice machine to supplement the output of its own ice plant. The flake-ice unit is placed in a small room large enough to accommodate the unit and a single cart.

When ice is wanted, the cart is pushed up under the outlet, the switch is flipped, and the employee goes about his other work until the required amount of ice is in the cart.

Noll declared that other hospitals have installed as many as three of the ice machines and spotted them in strategic locations throughout the hospital.

This is possible, he asserted, because only electric and water lines

are needed to use the machine.

Noll estimated that the use of a flake-ice machine will cut a hospital's ice cost by about 60%, an important element because economy is so essential in hospital operation.

Commercial Refrigeration Co. gives a one-year maintenance service contract with the unit and then will sell the hospital a five-year contract at the end of the first year of operation.

## Devine Named Commodity Sales Mgr. for Wolverine

DETROIT—Wolverine Tube division of Calumet & Hecla Consolidated Copper Co., Inc., has announced the appointment of Buel A. Devine as commodity sales manager.

Devine will be in charge of tube sales to wholesalers and jobbers.

## Fish Processing Plant Started

CRANBERRY PORTAGE, Manitoba, Can.—A quick-freeze, storage fish-filleting plant is under construction at nearby Cold Lake. It will serve fishermen over a wide area in this northern region.

## McQuay Appoints Feinberg Big Cafe Display Case Speeds Service

MINNEAPOLIS — H. Blake Thomas vice president and general sales manager of McQuay, Inc., has announced the appointment of Emanuel Feinberg as factory representative for McQuay, Inc. in the Detroit and Toledo areas.

Feinberg was associated for several years with Giffels and Vallett Inc. of Detroit, as an industrial engineer. Feinberg was also associated with American Thermal Industries.

He was director of sales for Acme Industries Inc., and is currently heading the Thermalair Engineering Co. in Detroit.

Through this office Feinberg will handle the complete McQuay line of heating and air conditioning equipment for the following counties in Ohio:

Williams, Defiance, Paulding, Van Wert, Mercer, Fulton, Henry, Putnam, Allen, Auglaize, Lucas, Wood, Hancock, Hardin, Ottawa, Sandusky, Seneca, Wyandot, Crawford, and the following counties in Michigan: Lenawee, Monroe, Branch, Hillsdale, St. Claire, Macomb, Oakland, Wayne, Huron, Tuscola, Sanilac, Genesee, Lapeer.

ALBUQUERQUE, N. M. — Installing one of the largest stainless steel display refrigerators ever used in the local restaurant industry, has increased sales, cut costs, and insured operating efficiency for the Liberty Cafe here, operated by Lionel Young, George and Ted Pavlantis, according to the owners.

Twenty feet long, and four-tiers high, the big display refrigerator has been installed behind a 40-stool "high-speed service counter" on the left side of the restaurant.

Constructed of stainless steel throughout, it is provided with two 1-hp. condensing units, which serve two separate temperature zones in the interior.

The case is 4 ft. high, and 3 ft. deep, with four levels of plateglass shelving, spaced approximately 11 in. apart.

A combination of cold plates and refrigeration coils mark off the two temperature zones. Eight low temperature refrigerated compartments are below for storage of cooking ingredients.

The top two glass shelves of the fixture are used exclusively for baked goods, primarily such highly-perishable items as custard pies, whipped-cream cakes, eclairs, cream puffs, and the like.

More than 200 such items can be readily stored here, at a temperature of around 40° F. This makes it possible for the Liberty Cafe to sell these

fast-moving profitable specialties the year-round, despite the hot, dry atmosphere of this New Mexico city, the operators said.

The lower two shelves, which are directly cooled by cold plates beneath the glass, display meats, dairy products, cream, made-up salads, fruits, and other products, at temperatures ranging between 35 and 40°.

Most important use of the lower two shelves is the maintenance of a complete stock of made-up salads, and cold desserts, which do away with any strain on the kitchen, salad bar, etc., during rush periods at the breakfast, lunch, and evening dinner hours.

As many as 150 made-up salads can be readily accommodated, by using space in the compartments below, with a similar number of desserts, such as gelatin, a la mode pie, eclairs, etc., similarly stocked, it was pointed out.

Four sliding glass doors, with steel reinforced frames, make it easy for the six waitresses stationed behind the rail during rush periods, to remove wanted items, so that customers who order cold foods of any kind, may be served immediately. This, naturally increases stool turnover.

Built at a cost of \$2,200, the big refrigerator is rapidly paying its way in increased cold-specialty sales, convenience, and elimination of additional steps, according to Young.



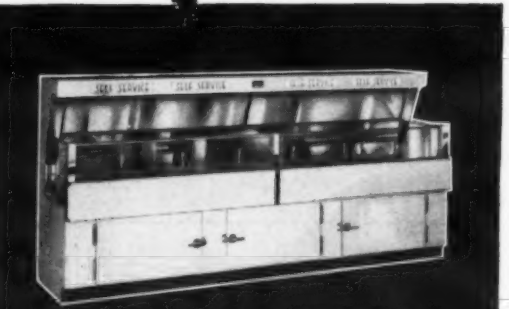
MODEL 6710

A sure lure for promoting sales of produce, dairy products, and other long-profit perishables. This wide, handsome Koch case with big, gleaming back mirror spells extra profits in terms any merchant can understand. The finest open case at any price.



MODEL 306

Tripled the appeal of dairy products, delicatessen, and bottled goods. Any alert grocer can see how the three easy-to-reach shelves will increase impulse purchases . . . and pay for itself in no time. Each shelf independently refrigerated and fluorescent lighted.



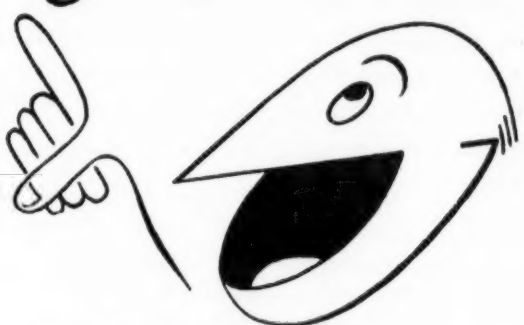
MODEL 5710

Here's new glamour for your prospects' pre-packaged fresh meats, produce, dairy products, and delicatessen. 10-ft. long. Open front for easy access by customers or by clerks. Refrigerated lower compartment for speedy re-stocking. Brilliant fluorescent lighting.

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"Sell about"



TO STIMULATE SALES  
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It takes more than gleaming cases and fast conversation to sell refrigerators today. If your prospect starts crying the blues, he's wide open for a wide-open Koch case, the kind that helps fill shoppers' baskets and dealers' cash registers. Delicious foods, attractively arranged in a gleaming extra-large Koch case, pulls plenty of extra sales that amortize the cost in a surprisingly short time.

Investigate the unique sales-features of Koch cases today . . . the kind of features that give you something to sell about. A note directly to the factory will bring a prompt reply.

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—Charles A. Dana.

## Do You Have 'Both Feet On The Ground'?

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AND THEIR SOLUTION

by Paul Reed



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## Let's Enlist Friendly D.P.'s

THIS high time to rearm our German, Japanese, and Eurasian friends. Decriers of that realistic policy, who shrink from the thought of strengthening our ex-enemies, should realize that our world is faced with a much bigger and more fearful menace: Communist Russia and her satellites.

European politicians are reluctant to move fast about rearming their own nations. Atlantic Pact defense plans are mostly on paper. So, to preserve our own precious Right to Pursue Happiness, we should enlist the potential allies we have in our "camp" today. We know who is for us and who is against us. The West Germans, progressive Italians, and the ultra-practical Japs now are on our side. And they'd fight for us if we'd let them.

Russia wouldn't hesitate to prod its stooges to invade western Europe if they figured they could get away with it. Possibility of atomic annihilation apparently is all that thwarts them as of now, and they may become impatient. What we need is legions of ground troops, and in a hurry.

Why don't we quit being so fussy about whether or not our troops are American citizens? Why don't we organize a foreign legion, as Senator Lodge has suggested, from the D. P.'s abroad whom we're feeding, and who are frustrated in their attempts to find work and be useful?

Soldiering is a trade, and a mighty useful one in critical times. A large percentage of today's French foreign legionnaires are Germans. Armed British forces contain plenty of men from Ireland—which fights Britain periodically. And so on. Our army could well use the additional soldiers other nationalities would provide willingly.

And, while we're on this subject:

Why should we refuse to ratify a military pact with Franco's Spain and Tito's Yugoslavia? We could use their air bases and their disciplined troops. Tito may be a roughneck, but we've been finding him useful in our cold war, and we've lent him money. Franco may be a louse, but we could use Spanish bases, too. They're both dictators, but they're also sworn enemies of Russia. We've been pals with the Turks and the Greeks and the Argentinians and various other dictatorships, and we continue to pour money into their coffers.

Where's the difference?

'Twon't be long before our foreign-gift dollars, which were dedicated to the elevation of our allies' standards of living, must be diverted to armaments. Why not be equally realistic and admit that we should recruit all the foreign manpower we can get?

Let's rearm the western Germans and the Japanese, and enlist their experienced officers.

Let's recruit idle D.P.'s ("displaced persons") who have personal reasons for hating the Communists.

Let's build up a foreign legion of our own!

"The free world will not defeat communism with each democratic nation running into a neutral corner; we must get into the center of the ring and slug it out."—Brotherhood of Maintenance of Way Employees Int.



# Will Crisis Cut Commercial Sales?

Utility Expert Sees Restaurant, Food, Drug, Dept. Store Markets Expanding but Hotel Outlook Remains Big Question

ATLANTA—Under the national mobilization economy expected next year, the commercial refrigeration and air conditioning industry can expect much production as materials and manpower allow.

But there will be more and more pressure to funnel this equipment into industrial locations and less chance or desire to utilize it in strictly commercial enterprises.

That is the prediction W. L. Byrne, sales consultant for Ebasco Services, Inc., made before the Southeastern Electric Exchange meeting here recently. Byrne spoke to the utility officials on the opportunities for commercial sales in 1951 in view of mobilization.

## EFFECT OF MOBILIZATION

"First, will probably come another tightening of consumer credits, heavier draft calls, and lifting of exemptions for married men, and probably veterans," he declared in outlining the effects of mobilization on the general economy.

"Then price and wage controls, tighter rent controls, higher and higher taxes, allocation of metals and other scarce items, priorities, and eventually rationing . . . of scarce goods at least.

"By mid-1951, we will have upwards of 3,000,000 men under arms and war production substantially eating into civilian goods. . . .

"We already have the National Production Authority to supervise production, and the Economic Stabilization Agency to plan and later enforce wage stabilization and price controls.

"The Defense Department is placing more and more orders with their

'DO' or 'Defense Order' priority labels on them, requiring the dropping of any civilian production that may interfere with such defense work.

"Limits in the use of two kinds of steel, natural rubber, and alcohol were ordered a few days ago. There will be other agencies and other controls soon. We will again have to learn our ABC's of government bureaucracy. . . .

## 1951 SALES OUTLOOK

"In view of all this, what are the opportunities for utility commercial sales next year? . . .

"Today, the electric utilities have more kilowatts of margin between capability and demand than they had in 1940. This margin is of better quality, too, for it is more efficient and by 1953 more than half of the generating equipment will be less than 10 years old.

"An even better idea of the amount of capacity that will be available can be had by looking at the construction program now in progress.

"From a survey made this spring, plus what is known about the great amount of capacity ordered since that time and what is planned for the next few months, a clear picture of comparison can be made.

"During the four years, 1950 through 1953, nearly three times as much capacity will be installed as during the corresponding period of World War II.

"At 60% load factor, it will produce over 140 billion kwhs. additional, or 16% more than all the energy sales to large light and power customers in the year 1949!"

Byrne asserted that in spite of all the confusing problems in the future, commercial business is going on full steam ahead, and anticipating good volume, too.

it high with everything from potatoes to patent medicines. If this experiment succeeds, the plan will probably spread.

"The dollar volume of the nation's department stores, in the first six months of this year, was up 3% over a year ago. The boom in August from scare-buying pushed sales 18% above last year, but by September 30 they were back down to a plus 6%.

"The southeast, in general, is slightly below these national figures, but areas around Birmingham, Miami, Nashville, and Richmond are still reporting better volume than last year.

"As manpower becomes scarce, stores will have to go to more self-service, use displays and lighting as silent salesmen. More opportunities for selling electric service!

## RESTAURANTS MAY INCREASE

"Restaurant business has been off recently. An upsurge in home eating and entertaining, perhaps partly due to television, has affected the public eateries.

"So, the National Restaurant Association and the American Hotel Association are developing a national advertising program aimed at re-selling the advantages of their service.

"Restaurants, diners, and similar drinking and eating places will increase in number near war plants, and the in-plant feeding facilities will again become a more serious need.

"Most utilities are well aware of the excellent load possibilities of commercial electric cooking. With the uncertain equipment situation in the future, restaurant operators will be interested in the long life and trouble-free advantages this equipment affords.

"Hotels have found their net income dropping to the lowest since 1941 and with increasing wage rates and costs of other expense items, the break-even point is probably over 80% occupancy, now, compared with about 50% before the war.

"Heretofore they were able to raise rates and maintain revenue, but last year even with increased room rates, revenues dropped slightly. Motels are taking more and more of their business.

"Some hotels are considering the use of more of the lower floors and public space for shops and offices to bring in assured rentals.

"Of course, with more men in training and with more people with more money to spend, travel may increase and hotels may go back to packed houses again. If their revenues increase, they will be anxious to complete modernization programs, if this work is possible.

"Signs also seem to indicate that renovation and remodeling of older office buildings, while considerably slower to catch on than store modernization, has finally started.

"Priorities and shortages may affect this work next year, but the trend seems to be started. Many building owners now realize that they must provide modern lighting, air conditioning, high speed elevators, and other efficiency and comfort builders in order to keep tenants.

"Office managers are more interested than ever in improving the

efficiency of employees and in keeping them happy and on the job. Lighting, air conditioning, office machines, lunch rooms, beverage dispensers, and many other opportunities for electrical load can be sold."

Though the sales prospects look good, Byrne warned, there will be problems, delays, and difficulties.

## MANPOWER AND PRIORITIES

"The biggest questions are manpower and priorities," he said. "Manpower will become exceedingly tight as the draft takes more and more men and as war plants get into gear with the wage and deferment advantages they may have. . . .

"We do not have a big pool of unemployed this time—about 5% as compared with nearly 15% in 1940. Many women who entered industry during the war have remained at work. Our labor force has grown at a faster rate than our population.

"While a large number of housewives can probably be secured again, especially if their men folks join the armed forces, we may still find the working force inadequate to meet the needs. . . .

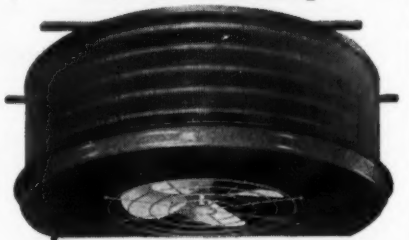
"The availability is still a big question. . . . In the commercial cooking equipment field, . . . the largest manufacturer expects to have record production next year, but a very large percentage of this equipment may go to priority jobs. . . .

"The production capacity of this segment of our industry is much larger now (than at the outbreak of World War II), but it is clear that equipment for strictly civilian uses will be short.

"The electrical industry should do what it can in Washington to assure that practical rules for allocations and priorities are drawn up, so that important needs may be filled."

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## RECORD FOOD BUSINESS

"Food stores are doing record business," he said. "Expansion and modernization programs will continue until conditions force a change.

"It has been estimated that there should be 6,000 more supermarkets in America by 1960 to serve the 10 million additional people expected by that date.

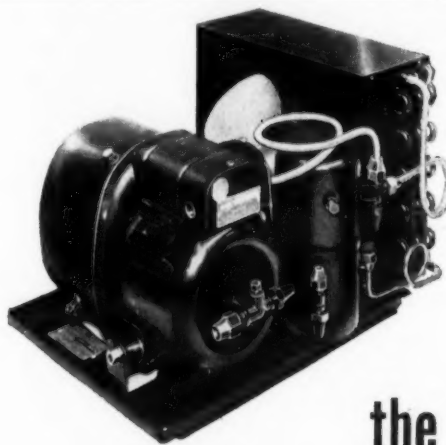
"Right now, about 25 food stores are starting re-modeling projects every week and the chains are breaking ground for new units at the rate of 100 per month.

"Food stores are using more and more refrigeration as pre-packaged and frozen foods jump in popularity. Better lighting, air conditioning, and similar services are taken for granted. These stores are showing the way to others in the use of electricity.

"Drugstores have seen food markets gradually eat more and more into their field. One large chain, Rexall's Owl Drug on the west coast, has decided to try the old axiom, 'If you can't beat 'em, join 'em.'

"They are tying up with the large Lucky Star Markets to build a new super-supermarket. Owl and Lucky Star each invested half of the capital and will split profits 50-50.

"Here a shopper may push her cart over 21,000 sq. ft. of space and pile



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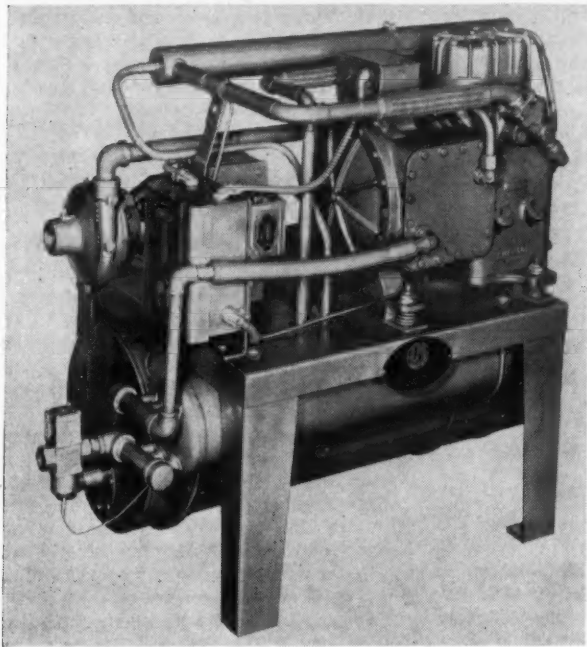


Fig. 1—Flow-Cold chilling unit developed by Acme Industries offers interesting possibilities for installation as a package heat pump.

## Heat Pump--Applications, Theory

Installations Will Increase Rapidly as Public Becomes Aware Of Economy and Electric Utilities See Chance for Balanced Load

DETROIT—"I think it is safe to predict that heat pumps and heat pump installations will rapidly increase in number and that their relative use compared to other systems will also increase rapidly," declared Alvin B. Newton, vice president, engineering, for Acme Industries, Inc., before the Detroit section of the American Society of Refrigerating Engineers.

"In many areas heat pumps will help create a desired balance in electric power consumption, and in all cases where properly installed they will be found economically sound from the point of view of over-all usage of natural resources," he pointed out.

While discussing general aspects of heat pump applications, Newton cited specific arrangements possible with the Acme "Flow-Cold" unit, a self-contained machine including a compressor for transfer of heat from a cool fluid to a fluid to be warmed.

"The theory of the heat pump and its ability (which has seemed uncanny to many) to make a large quantity of heat available at rather low yet useful temperatures from the expenditure of a relatively small amount of energy has been known almost as long as the theory of refrigeration itself.

"Yet it is only during recent years," Newton said, "that the term heat pump has been familiar to the layman; that it has identified a subject of great interest to the electrical utilities who must supply power to operate it as it becomes more widely used; that it has been of real interest to the manufacturer of refrigeration and air conditioning equipment; and that it has become an item to reckon with on the part of the technically trained people who must design and

### PART 1

make the installations and service and install them.

"To understand the present status of the heat pump, one must study the underlying causes of this increased interest in so varied a group of people. This is true not only as to broadened use of the heat pump but also for the effect which wider use of the heat pump may have on the entire field of air conditioning.

#### REVERSE CYCLE TERM DROPPED

"At one time not so long ago, the heat pump used to be referred to as a reversed refrigeration cycle. Fortunately, this term has been dropped since the cycle is actually a reversed power cycle and much more properly called a heat pump. It is the only system with which we can reconstruct the cycle which goes on in a power plant in reverse and deliver as much or more heat to a remote space as could have been delivered by directly burning the fuel at the space instead of at the power plant.

"In the power plant, fuel is burned, a relatively small percentage of its energy is finally made available as electricity, and the remaining large portion of its energy is rejected or wasted at relatively low and unusable temperatures in the condenser water stream. The heat pump can absorb this large amount of wasted energy—sometimes even a larger amount—even though its temperature is low, and by using the same energy produced by the power plant, it makes available the entire amount of heat both of the source and the

electricity used to operate it at temperature suitable for space heating and many commercial applications.

"This ability to make more heat available than was available in the electrical energy used has, of course, had great popular appeal—the layman feels he is getting something for nothing," Newton explained.

"In some idealistic future, the fuel, whether it be coal, oil, or gas, might be burned at the source or at other central locations to produce electricity which could be transmitted to heat pumps in homes and commercial or industrial buildings with an over-all efficiency equal to or possibly greater than as if the fuel itself were transported. Certainly this would save many ton miles of rail and truck transportation even though the fuel for local power production might still have to be transported.

"What the over-all effect on the national economy would be is indeed hard to predict, but it is evident that electrical utilities as well as the producers of fuel will have a real interest in any such development.

"There are other ways in which electrical utilities must be concerned in the heat pump and its possible power demands. Our American utilities are well known for their high degree of cooperation in supplying the power requirements of any new industry. To meet these load demands requires a great deal of investment in generating equipment and in distribution equipment. Of course, when this equipment is used only a short time during the year, say 800 to 1,200 hours, the investment cost per kilowatt hour of energy requirement is greatly increased.

"This factor becomes even more

severe when the electrical usage of any major consumer is crowded into a few months of the year. Our utilities have had to handle numerous such problems and in many areas right at the present time, summer air conditioning equipment is producing summer peaks which exceed the January peaks that formerly represented the maximum demands of the year," he emphasized.

#### FACTOR IN LOW POWER RATES

"If our electrical rates are to be at the lowest possible levels, these peaks must remain in balance. The heat pump may well be a factor in maintaining such a balance since it continues the relatively large demands of the air conditioning system throughout the year and may result in a total of 4,000 to 5,000 hours of use of the equipment annually.

"Even when used only for between-season heating, the heat pump may extend the total hours of use of air conditioning equipment by as much as 600 to 1,200 hours. This makes a more desirable load and permits greater amounts of summer air conditioning with no further system unbalance to bother the power suppliers.

"Certainly our utilities have turned in a remarkable performance in handling all types of load demands and I think it is evident that the air conditioning and refrigeration industry may accept a great deal of support from the utilities in any well thought out expansion in the heat pump field," declared Newton.

"In any new field such as this, many installations are usually made as a result of being engineered in the field and erected from standard or special components to meet the requirements of each individual job. As a result of such installations, a definite pattern or series of patterns evolves on which manufacturers can base designs for self-contained equipment, thus permitting quantity manufacture. This is about the stage we are in now with respect to the heat pump.

#### COMPLICATING FACTORS

"However, there are an unusual number of complicating factors due to the wide variation in characteristics of the possible heat sources, the wide variation in the refrigeration equipment itself and in addition due to the great variety of methods of distributing the heat and cooling effect within the conditioned spaces.

"Before going into the details of using them, I would like to show some representative figures comparing the relative costs of heating by the heat pump and by several other methods. To do this, typical costs and efficiency of use of the various fuels have been assumed, and, of course, any individual job may vary considerably from these figures. To convert to other conditions, it is merely necessary to apply the ratio of the assumed rates and efficiencies to the actual rates and efficiencies encountered.

#### TABLE ON COSTS

"Table 1 illustrates," Newton said, "that with a relatively high available water temperature for a heat source and final distribution of heat as by radiant panel heating or forced air convectors, the heat pump equals coal and oil and comes very close to gas in the amount of heat delivered per dollar. Furthermore, during certain seasons of the year a heat pump can be used at a very great saving as compared to solid fuels due to the relatively low efficiency obtained when the load is relatively light in heating plants using such fuel.

"There are, of course, other heat sources which we will discuss below and many, such as air, have been rather widely used. However, it has been impossible to obtain dependable and representative performance data on such installations due to the wide variation in weather conditions and the major effect that weather conditions have on the efficiency of a heat pump unit using an air heat source.

"As a matter of fact in analyzing a large number of inquiries for heat pump installations, approximately 80% prove to be most easily handled by water as the heat source or by circulation of a fluid in a ground coil. Of these, the vast majority proved to be best handled by well water, city water, or lake water and since the equipment to handle such installations simply and easily is among the newest heat pump equipment, I will discuss it in detail below.

"Self contained units including a compressor for transfer of heat from a cool fluid to a fluid to be warmed

are now readily available, being in high production in the 2 to 15-hp. sizes, and smaller production though with completed designs in sizes on up to 150 or 200-hp. Fig. 1 shows a unit of this type.

"The unit may be used in an extremely wide variety of ways in either heating or cooling," Newton claimed.

"In summer air conditioning the pump circulates water through the chiller and supplies this water to remote coils and convectors to cool the dehumidify while the waste heat is carried off in the condenser water stream.

"Heating is accomplished by passing the water from a heat source through the chiller instead of through the condenser and passing the water circulated by the pump through the condenser and out to the heating coils. The unit then removes heat from the waste water and transfers it at a higher temperature to the circulated water in the condenser and heating coil circuit.

"In residential heating, the warm recirculated water is usually passed through forced air convectors installed in the various rooms of the house. It may likewise be used in duct coils of a central duct type heating system or in floor, wall, or ceiling type radiant heating panels. In many localities and types of heating installations the complete heating requirement is handled by the unit, however, a special use of the heat pump in conjunction with existing heating plants is of particular interest in cold and mildly cold areas.

"When only small amounts of heat are required for short periods as in the fall and spring, many existing heating systems are inefficient and

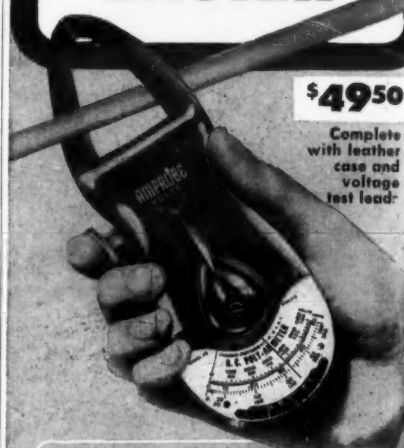
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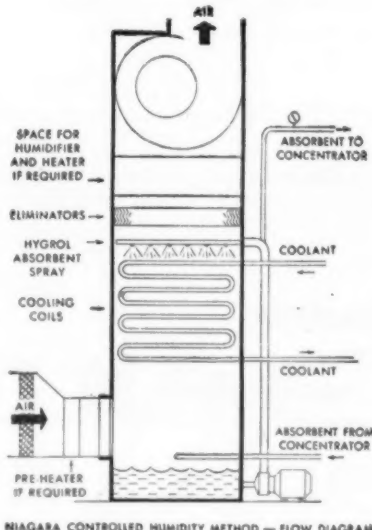


Food Packaging under Controlled Humidity

The diagram shows how filtered air is dehumidified by passing thru a spray of "Hygrol"—a liquid absorbent which removes air-borne moisture.

Records of results are available. For further information, write Niagara Blower Co., Dept. AC 405 Lexington Ave., New York 17, N.Y.

#### NIAGARA "Controlled Humidity Method" Uses HYGROL, Liquid Absorbent



NIAGARA CONTROLLED HUMIDITY METHOD — FLOW DIAGRAM



Table 1—B.t.u. /¢ from Various Fuels

Fuel	B.t.u./Unit	Typical Rate	Probable		
			B.t.u./¢	Eff. of Use	Useful B.t.u./¢
Coal	26,000,000/ton	\$20.00	13,000	60	7,800
				30%*	3,900
Oil	144,000/gal.	.14	10,350	75	7,750
	1,000,000/				
Gas	1,000 cu. ft.	.85	11,750	75	8,800
Electricity	3,413/kwh.	.02	1,706	100	1,706
Heat pump					
70° Well & radiant	17,700/kwh.	.02	8,850	90	7,970
70° Well & convectors	16,000/kwh.	.02	8,000	95	7,600
70° Well & forced air	15,200/kwh.	.02	7,600	90	6,820
50° Well & radiant	14,900/kwh.	.02	7,450	90	6,700
50° Well & convectors	13,200/kwh.	.02	6,600	95	6,280
50° Well & forced air	12,500/kwh.	.02	6,250	90	5,620
20° Sol.† & radiant	10,200/kwh.	.02	5,100	90	4,600
20° Sol.† & convectors	9,000/kwh.	.02	4,500	95	4,270
20° Sol.† & forced air	8,500/kwh.	.02	4,250	90	3,830

\*Between seasons operations. †Solution from ground coil.

## Various Sources of Heat Pump Energy And Their Use Discussed by Newton

(Continued from preceding page) uneconomical. This is particularly so when solid fuels are used, and there is the additional drudgery of frequently lighting and tending a fire. The heat pump will eliminate such drudgery, and economically provide more comfortable and convenient heating in the fall and winter season—automatically; fires need not be started until they are needed continuously.

"Used in this way the unit may not be used as a heat pump during the mid-winter season, but it provides full summer air conditioning as well as between season heating. For between season operation, it is frequently economical to use city water as the heat source," he commented.

"There are many piping arrangements which will produce proper operation of the water to water heat pump. The particular arrangement used will depend on the type of heat source available, on the location, whether in a warm or cool climate, and on the degree to which automatic operation is desired. Any reliable source of heat may be used from which a continuous flow of water above 45° F. may be obtained in sufficient quantities.

"If the temperature of the fluid is to be below 45°, special consideration must be given as outlined below to assure proper operation of the equipment without danger of freeze-up. The major types of heat sources which are now employed and the recommended manner of using them are listed below.

### HEAT SOURCES

**"WELL WATER:** In the warmer parts of the country, well water temperatures are seldom below 55° to 60° even during the cold weather whereas in the colder parts of the country, the well water temperature will seldom be below 48° to 50°. This makes well water an ideal source of heat for a heat pump and the used water, which is cooled in passing through the unit, may frequently be returned to the ground through a second well located some distance from the source well if no other need exists for it.

"With 50° water temperature, approximately 6 g.p.m. for each horsepower of the unit will be required. For 70° water, approximately 1½ g.p.m. for each horsepower will be required. Shallow wells in some parts of the country produce brackish or salty water. The standard unit must not be used with such water, but special models with alloy tubes can be furnished on order," Newton said.

**"CITY WATER:** For between-season heat pump operation, city water is frequently an economical source, particularly if the chilled used water

can be used for lawn or garden sprinkling, watering of evergreens, or similar uses. Approximately the same amounts are required as with well water of corresponding temperature, but in some areas, during the spring period, water as low as 45° in temperature must be used. In this case, between eight and 10 g.p.m./hp. will be required.

**"LAKE WATER:** Lakes which have a depth greater than 9 ft. from which water can be drawn provide an excellent source of heat throughout the winter with the coldest water temperature of 39° occurring after the lake is completely frozen over. The water should be returned to the lake at a location well away from the water inlet pipe and at a point approximately 1-in. below the expected ice depth. A lake water source requires units with a special water chiller due to the large volume of water which must be used. The volume required during the coldest weather from lake sources is between 12 and 18 g.p.m./hp.

**"GROUND SOURCES:** The ground itself is a good source of heat in many localities. Usually the type and amount of ground coil required can be determined through conference with the electrical utility serving the area. The use of water or a glycol solution is much to be preferred to direct expansion of refrigerant in the ground coil since it eliminates problems of oil trapping and refrigerant distribution and reduces the expense of the installation. Most ground coil installations will require the circulation of a glycol solution since below freezing temperatures are frequently encountered. A solution suitable for plus 10° or 0° F. is usually satisfactory."

Questioned as to whether there was a rule of thumb in determining how much ground coil should be allowed for a job, Newton replied:

"That's a good question and I don't know that we can give you a completely definite answer. There are so many variables. For instance, two ground coil systems were installed in the Philadelphia area four years ago, one in the city and the other in the country on a three-acre plot.

Each system had a 5-hp. capacity, and for each, 400 ft. of 1½-in. wrought iron pipe was installed in the ground per horsepower, or 2,000 ft. The coils for the installation in the country were pretty well spread out, while the city installation ran into a lot of water, virtually an underground river.

"By valving off each system tests have been made as to how much ground coil is needed. It now looks," Newton said, "as if the country system can operate satisfactorily with two thirds of the 2,000 ft. of coil,

while the city job need only one third. In general, 300 to 500 ft. of ground coil is being used per horsepower in most installations.

**"AIR HEAT SOURCE:** In warmer areas of the country the air itself may be used as a heat source by circulating a glycol solution from the chiller through an outside air pick up coil. These coils are usually of the forced circulation finned type. Usually 5 to 8 g.p.m. of glycol solution is circulated for each horsepower of compressor capacity employed.

**"HEAT STORAGE:** With ground or air sources, heat is frequently stored up when not needed so that it will be available during periods of extremely low outdoor temperature. This may be accomplished by large water tanks storing the heat in the water itself or if space is a limiting factor, using some material which melts at relatively low temperatures such as disodium phosphate in cans in the water bath.

"The bath may be heated for storage purposes either by extra operation of the heat pump when heat is not required in the occupied areas or by off-peak electrical heat directly applied to the baths. Some experimental work today may lead to accumulation of this stored heat from solar energy. Here again the advice and assistance of your local electric utility is recommended."

Newton here cited weather records of Dayton, Ohio, which showed "what a short portion of the heating season requires full heat input to heat a residence. For example," he said, "58% of full capacity will supply all the heat needed in a residence for 90% of the time, and this at least suggests using a smaller heat pump with an auxiliary heat source to

handle the peaks. This should be studied more than it has because even an expensive fuel for the peak periods might result in improved over-all economy."

If desired for "between-season" operation (plus summer air conditioning, of course,) a heat pump with 30% of the capacity of the heating plant could supply the total heating demand of 52% of the time, he declared.

**"DUAL HEAT SOURCES:** When ground or air heat sources are employed and sometimes even with lake water installations, the occasional use of city or well water available at a higher temperature may be permitted for taking care of the extremely low temperature periods, which exist for such short times that this auxiliary use of well or city water does not result in materially increased costs of operation.

(To Be Continued)

### N'west Ohio Contractors Elect Taylor President

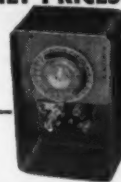
TOLEDO—At the annual meeting held recently, Everett E. Taylor, vice president and equipment manager of Toledo Merchandise Co., was elected president of the Refrigeration Contractors Association of Northwestern Ohio, the group has announced.

Floyd I. Davison, of Davison Associates, was elected vice president; Harold Bennington, of Bennington Bros., was re-elected secretary; and Fred Rudolph was chosen as sergeant-at-arms.

Serving on the board of directors with the officers are Paul Sizer, Tracy Riches, Charles Hudson, and R. S. Weaver.

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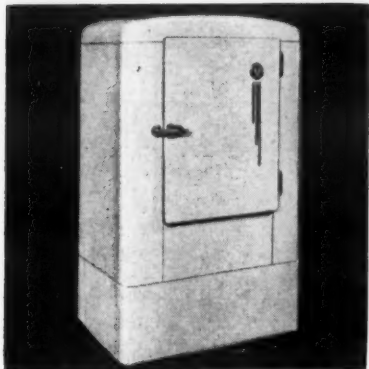
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## What's New

When requesting further information on new products, please use "Information Center" form.

### G-E Roaster Has Window, 3-Color Temperature Dial



—KEY NO. P-1141—

BRIDGEPORT, Conn.—Visual control of cooking operations in an electric roaster has been improved in a new automatic model which has been placed in production by the General Electric Co.

The roaster has a heat-resistant window in the lid to permit the home-maker to watch foods while they

cook and an enlarged three-color temperature dial to facilitate selection of cooking temperatures between 150 and 500° F. An automatic signal light tells when the right heat is reached.

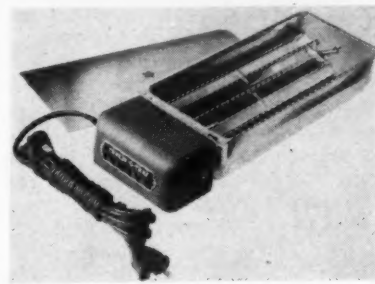
The roaster is portable and can be used for any cooking operation. It holds a 20-lb. turkey or 18 liquid quarts.

Completely restyled, it is finished on the outside in white baked enamel and on the inside in gray porcelain enamel. Handles and trim are plastic finished in gray.

The roaster, which comes with three heat-resistant glass dishes, metal baking racks and a removable cooking well, is being fair traded at \$39.95.

A broiler-griddle for broiling steaks and chops and a cabinet to hold the roaster are available as accessories at the fair trade prices of \$9.95 and \$24.95, respectively.

The cabinet, finished in white enamel, has a built-in automatic timer and clock which turns the roaster on and off at pre-selected times. A cabinet without the timer clock is also available at \$16.95.



### Electric Ice Cream Tray Fits Inside Refrigerator

—KEY NO. P-1143—

NEWPORT NEWS, Va.—An electric ice cream freezer that can be used in any household refrigerator has been introduced by the Freeze-O-Tray Co. here.

The freezer consists of a stainless steel tray, a twin bladed dasher that glides across the bottom of the tray, and a detachable electric motor to operate the dasher.

To operate, one quart of ice cream mix is poured into the tray, the tray is placed in the refrigerator's evaporator, the motor attached, and the cord plugged in. The dashers stir the ice cream constantly while it is freezing.

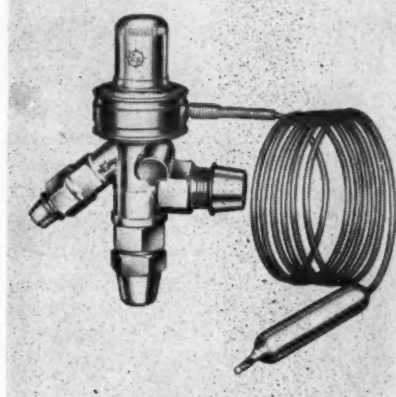
With the refrigerator's cold control set at its lowest setting, the ice cream will be soft frozen in about one hour, the manufacturer claims. The motor stops automatically when the ice cream is frozen.

Over-all size of the Freeze-O-Tray, as the freezer is called, is 2½ in. by 4½ in. by 12½ in. The 110-volt, 60-cycle a.c. motor is housed in aluminum and is equipped with a 9-ft. cord.

The manufacturer says that it takes about one cent's worth of electricity to freeze a quart of ice cream. The unit carries a one-year guarantee.

Retail price of the Freeze-O-Tray is \$17.50, including federal tax.

### New A-P Valve Has Simple Adjustment for Superheat



—KEY NO. P-1145—

MILWAUKEE — Announcement of "an entirely new type" of thermostatic expansion valve has been made by A-P Controls Corp. (formerly Automatic Products Co.).

Known as the Model 209, the new valve offers four major features, which, it is stated, "make it unique in design and practically universal in application."

The valve has an adjustable pressure-limit setting, with a range of from 0 to 55 p.s.i., which is said to adapt it for use on any application where overload protection is to be desired.

Setting is done with a clearly marked adjusting knob.

In addition, the new design reportedly provides a simple superheat adjustment, to cover the entire normal operating range. In use, both adjustments are covered by moisture-tight and tamperproof caps, it is pointed out.

An important advantage of the new valve is the liquid charge, which is a basic feature of all A-P thermostatic expansion valves. This permits the valve to be used in any ambient temperature and in any position required by the installation, according to the company.

An additional advantage of the liquid charge, A-P said, is that it allows the valve to be used for any application—low, commercial, or air conditioning—without need for change.

It is pointed out that this new combination of universal position and temperature, together with completely adjustable pressure-limit and superheat settings, "results in a single valve that can be used for practically any application encountered commercially."

"This, in turn, means substantial reduction in inventory requirements, and permits fast service on any temperature or pressure-limit requirement, as the valve can instantly be 'custom made' to fit any application."

### Federal Designs Freezer For Use by Food Stores



—KEY NO. P-1142—

WAUKESHA, Wis.—A new upright frozen food storage freezer for use in food stores has been introduced by the Federal Refrigerator Mfg. Co. here.

The freezer has 27 cu. ft. storage capacity, or the equivalent of 850 lbs. of standard packages.

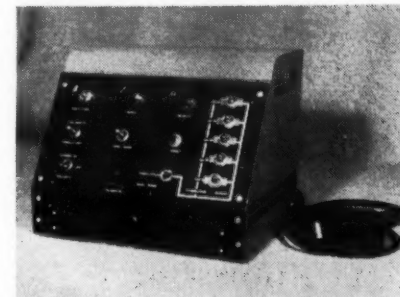
Featured in the unit is the top compartment, which has an extra plate type refrigerated shelf for ice cream storage.

Shelves are standard freezer plates and the entire back wall is banked with freezer plates. Compartments easily maintain sub-zero temperatures.

To preserve the low temperatures, the unit is equipped with three front opening doors with inner vestibule doors and is heavily insulated with fibre glass. Construction is all-steel with heavy galvanized lining. The exterior is deep gray enamel.

The freezer stands 92 in. high, is 38 in. wide and 26 in. deep. According to the manufacturer, these storage freezers are of strictly commercial design and not covered by the 10% excise tax.

### Tester Gives Fast Check On Appliance Overloads



—KEY NO. P-1144—

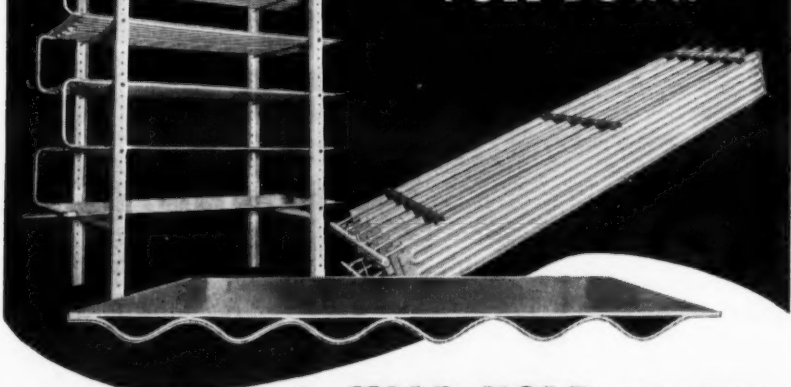
DARBY, Pa.—An industrial instrument that will, within 30 seconds, completely test portable electric tool or appliances under operating conditions for short circuits, overloads, defective insulation, and defective third wire is currently being manufactured by Testo Specialties Co. here.

Called the "Lectrotester," the instrument will check any portable tool or appliance drawing up to 10 amps, in single phase, 50-60-cycle, 110-120-volt circuits. The model 25-2 handles two wire circuits and the model 25-3 serves three wire circuits.

To operate the 'Lectrotester,' the unit is connected to any outlet and the tool plugged right into the receptacle on the tester. Operating toggle switches on the face of the tester performs all four tests. Pilot lights indicate results.

The 'Lectrotester' is portable and housed in an 8 by 10 by 8-in. cabinet.

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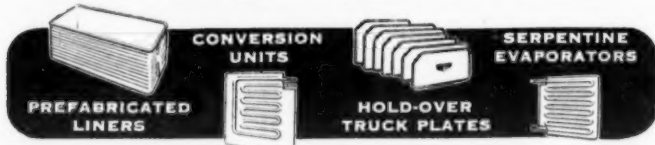
You get dependable refrigeration at lower cost when you use refrigeration plates with "Serpentine" design. These lightweight plates cool large areas quickly yet take up less room than conventional designs. They have no internal tubing or piping so their weight per square foot is extremely low, and installation is simplified.

One outer surface of the plate is flat and the other is embossed to form the channels through which the coolant flows. This provides direct refrigerant contact and the equivalent of 100% prime surface. The size of the refrigerant pas-

sage and the smooth contour of the return bend reduces pressure drop to the absolute minimum. Plates can't possibly become clogged or oil logged.

The flat, top surface of Serpentine Plates adapts itself readily to the construction of shelves and stands and banks to add extra convenience to holding and freezing rooms. Once installed, they provide a lifetime of efficient, dependable refrigeration performance. For proof . . . just ask anyone who uses one of the half million Kold-Hold Serpentine Plates in use today.

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## What's New (Cont.)

### New Controls Enable Drier To Handle Most Fabrics



KEY NO. P-1146

BRIDGEPORT, Conn. — A new General Electric clothes drier with time and temperature controls which permit the homemaker to dry all fabrics except knitted wools that must be stretched and blocked has been announced by C. E. Anderson, manager of the company's home laundry equipment division.

The drier also incorporates a new ventilating system designed to insure the circulation of clean air through the clothes and an ozone lamp which gives clothes a fresh, outdoor odor.

According to Anderson, the variable temperature control can be set low enough to dry silks and rayons safely and high enough to dry heavy fabrics, while the timer automatically controls the operation of the appliance for from 10 to 60 minutes.

Regardless of how many times the drier is opened during a cycle, the pre-selected drying time is not changed because a master switch stops operation until the door is closed again, he explained. At the same time, the switch acts as a safety feature, immediately turning off the heating element and stopping rotation of the clothes basket when the door is opened.

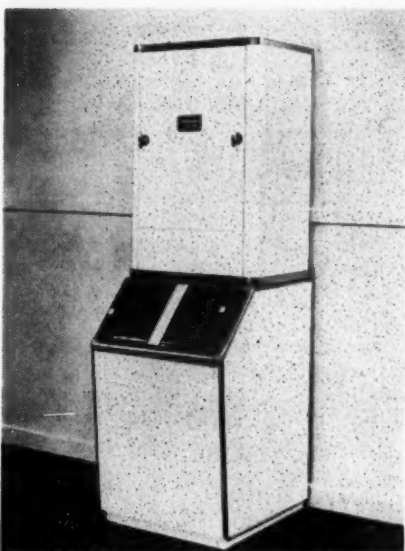
To prevent floor dirt from being sucked into the clean clothes, the ventilating system admits clean air at the rear of the drier, high above the floor. The air is instantly heated,

circulated through the clothes, and vented through the lint catcher in the front of the machine. Venting directly to the outdoors is made possible by the installation of an available conversion unit and ductwork.

Anderson said that the new model, which operates on 230 volts a.c., will damp-dry an average washer load of clothes in 20 minutes and completely dry them in 45 minutes.

The drier carries a recommended national retail price of \$249.95. It is being manufactured at the company's factory at Trenton, N. J.

### Ice Maker Delivers Either Cubes or Crushed Ice



KEY NO. P-1147

SYRACUSE, N. Y. — A new, improved automatic ice maker, which will deliver either cubes, or selected grades of crushed ice, has been introduced by Carrier Corp.

Important among new features is the rearrangement and redesign of operating parts to facilitate cleaning and maintenance from the front of the unit.

Use of a motor with a low starting current requirement permits direct hook-up with virtually all

standard 115-volt electrical systems, it is claimed.

The new factory installed ice cube crusher, an optional feature, provides a major degree of versatility, with a simple turn of a knob, the machine can be shifted from delivery of ice cubes to crushed ice. The grade of crushed ice can be controlled through a number of sizes from coarse to fine, by turning another knob.

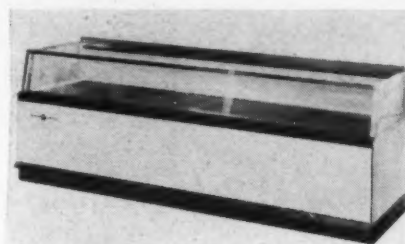
Operation of the ice cube maker is completely automatic and said to be virtually noiseless. An ingenious freezing arrangement forms the cubes individually, 208 at a time, one above another with a space separating each one from the next, in rows of stainless steel tubes. This spacing of cubes prevents them from freezing together into solid columns of ice, and thus eliminates the noisy operation of chopping them apart.

An automatic control, activated when the cubes are frozen, sends hot gas through the cooling coils, releasing the cubes to slide into the storage bin, or through the crusher into the bin if crushed ice is desired. Another automatic device stops the freezing of cubes when the bin is full, and starts it again when ice is removed from the bin.

Capacity of the machine is rated at up to 450 lbs. of ice a day, or approximately 8,500 cubes. Its floor space requirement is small—only 24 by 25 in. with a bin storing 160 lbs. of ice, and 34 by 25 in. with the large 240-lb. bin.

The machine is finished in baked enamel with chromium plated trim, and is available in gun metal grey, or in hygienic white, a color especially attractive for hospitals. All water handling parts are made of stainless steel to insure cleanliness and the prevention of corrosion as well as rust.

### Self Serve Meat Case Loads from Front or Rear



KEY NO. P-1148

LOS ANGELES—Super-Cold Corp. has announced the "New Sales Magnet" self-service meat and delicatessen case, which it says can be loaded either from the rear or the front.

The case is available with or without a superstructure. When equipped with the superstructure, a choice of either sliding glass panels for rear loading or "double-display" reflecting mirrors for the effect of mass display is offered.

Fluorescent lights flood the displays of meats, dairy products, or delicatessen items.

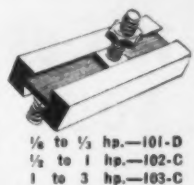
The porcelain-clad front is protected from damage by a stainless steel bumper rail. Each case is designed to join in an endless, in-line installation without removal of case ends.

Triple-glass-sealed front plus two-way distribution of Super-Cold "air conditioned" refrigeration is said to keep temperature balanced at the most desirable point.

Literature and complete details on the new refrigerated case are available.

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The DC-23 costs less to operate — gives year after year of dependable service. And it has all of these wonderful BTC features: all-steel Bonderized cabinet, four Thermopane sliding glass lids, one-piece stainless steel top capping, plus a five-year compressor and food-spoilage warranty!

Don't wait — get the facts on the new DC-23, and these other great cases, by writing Brewer-Titchener today!



SMART-LOOKING 16 Cubic Foot Display Case, Model DC-16. 76" x 28". With or without superstructure.



COMPACT 10 Cubic Foot Display Case, Model DC-10. 55½" x 28". With or without superstructure.

**BTC**

### DISPLAY CASES

THE BREWER-TITCHENER CORPORATION, Binghamton, New York

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Here is an easy, convenient way for you to get more information on "What's New" items and on products advertised in this issue of AIR CONDITIONING & REFRIGERATION NEWS. New literature and catalogs available to readers can also be obtained by using the form below. Your requests for this information will be forwarded promptly by the News.

*In requesting additional information on "What's New" and "Current Literature Available" items, please use Key Nos. shown on these items.*

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## BACK TO FUNDAMENTALS

Refrigeration Principles for  
Beginners & Experienced Engineers, Salesmen, and Dealers

By K. M. Newcum, Author of  
THE MASTER SERVICE MANUALS

### Theory of Refrigeration-3

#### SENSIBLE HEAT

Sensible heat is heat which is evident to the sense of feeling, and is thus properly termed *sensible*.

For example, if a vessel of 70° F. water is placed over a gas flame and

#### Demonstration of Sensible Heat

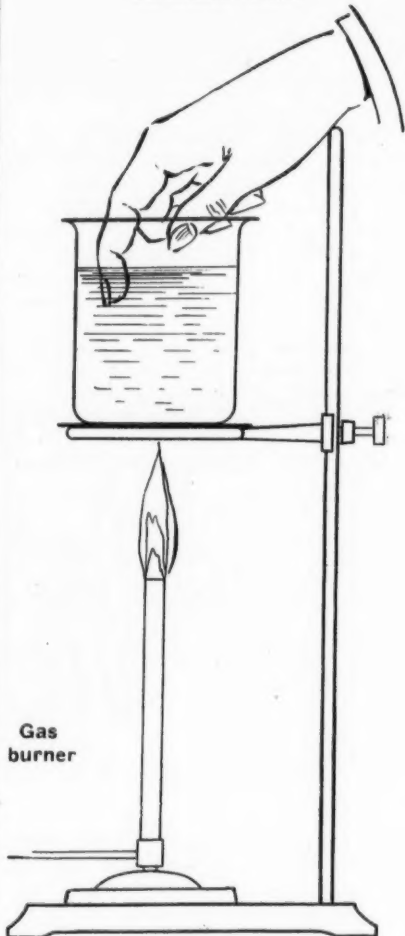


Fig. 6—The increase in sensible heat is felt by the finger in the water.

allowed to heat, the increase in sensible heat (temperature) may be felt by the finger as in Fig. 6. Fig. 2 is another good example of sensible heat. The increase in temperature of the copper rod is felt by the hand.

Changes in the sensible heat (temperature) of a substance may be measured by the thermometer.

#### SPECIFIC HEAT

Specific heat is the relative capacity of a substance for absorbing heat.

To provide a standard basis from which to work, pure water has been given a specific heat of 1.00. By comparison the specific heat of ice is .502, and for further comparison, the specific heat of copper is .101.

This means that it requires .502 (one half) of the quantity of heat to change the temperature of a given weight of ice through the same range as an equal weight of water. See Fig. 7.

To determine the amount (quantity) of heat necessary to effect a certain change in the temperature of a substance, multiply the weight of the substance by the specific heat and by the temperature change (weight x specific heat x temperature change).

Example: 50 lbs. ice x .502 x 10° = 251 B.t.u. (heat units) necessary to change the temperature of 50 lbs. of ice 10° F.

The specific heat of a substance remains constant so long as the substance remains in its original state.

#### UNIT OF QUANTITY OF HEAT

In refrigeration it is necessary to determine the quantity of heat contained in various substances.

Heat quantities (not intensities) are measured by what is known as the British thermal unit, abbreviated and hereinafter called B.t.u.

#### BRITISH THERMAL UNIT (B.t.u.)

One B.t.u. is the quantity of heat necessary to raise the temperature (intensity of heat) of 1 lb. of pure water 1° F.

#### Relation of Specific Heat to Temperature Increase

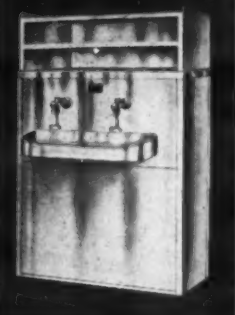
1 Lb. Brass 40° F.	+	.9 Heat Units	=	1 Lb. Brass 50° F.	Increase in Temperature 10° F.
Specific Heat of Brass .090					
1 Lb. Ice 10° F.	+	5 Heat Units	=	1 Lb. Ice 20° F.	Increase in Temperature 10° F.
Specific Heat of Ice .502					
1 Lb. Water 40° F.	+	10 Heat Units	=	1 Lb. Water 50° F.	Increase in Temperature 10° F.

Fig. 7—The relative quantity of heat required to effect a 10° temperature increase in three substances.

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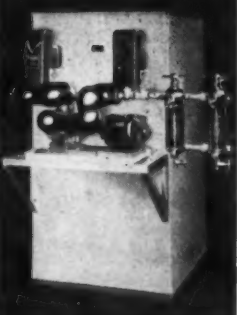
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Some people are blessed with remarkable memories, and can recall everything they've ever read or studied. Most of us, however, need to renew our learning at periodical intervals. It is with that in mind that the editors of AIR CONDITIONING & REFRIGERATION NEWS proudly present a new series of articles on what makes refrigeration work by the world's most widely read authority on this subject, K. M. Newcum. Refrigeration servicemen and engineers will recognize his name at once, for they have bought hundreds of thousands of his easy-to-read books.

Sales managers with whom this series has been discussed have expressed the fervent hope that dealers and their salesmen will read it, too. Anyone who sells household and commercial refrigeration, freezers, and air conditioning should be able to describe the mechanisms of their products to customers and prospects. Too often factory material on this subject is largely confined to the superiority of one make over another; and a great many dealers never get a chance to see the whole picture.

So here it is:

- (1) A "refresher" course for servicemen and engineers.
- (2) A sound education in fundamental principles for dealers and salesmen.

More clearly defined, 1 B.t.u. of heat will have been absorbed by 1 lb. of water when its temperature has increased 1° F. Reversing this procedure, 1 B.t.u. will have been given up by 1 lb. of water if its temperature is lowered 1° F. See Fig. 8.

The B.t.u., being the only standard measurement of the quantity of heat contained in a body or substance, is dealt with often in the study

#### British Thermal Unit of Heat Measurement

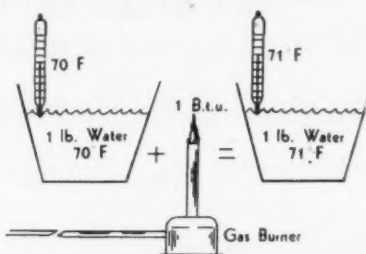


Fig. 8—One B.t.u. is the amount of heat necessary to raise the temperature of one pound of pure water 1° Fahrenheit.

of refrigeration. Use of the B.t.u. should be thoroughly understood.

Under "Specific Heat" it was pointed out that different substances have different capacities for absorbing heat, depending directly upon their specific heat factor. This quantity for several substances is demonstrated in Fig. 7.

#### UNIT OF INTENSITY OF HEAT

The unit of intensity of heat, expressed as temperature, is measured by the thermometer. The generally accepted measurement of temperature in English-speaking countries is the degree Fahrenheit abbreviated "°F." The Fahrenheit thermometer—common to all—is used as standard for determining the intensity of heat (temperature) of all substances. (To Be Continued)

#### Vic Appliances Files In East

BUFFALO—A business name has been filed in the Erie county clerk's office for Vic Appliances.



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Interior of Type 325. Note Timer dial with adjustment knob, slotted screw for back pressure adjustment and ease of wiring.

and economical to install. Learn more about it... ask your wholesaler or write Penn Electric Switch Co., Goshen, Indiana. Export Division: 13 E. 40th Street, New York 16, U.S.A. In Canada: Penn Controls, Ltd., Toronto, Ont.

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# Refrigeration Problems

## And Their Solution

By Paul Reed

For Service and Installation Engineers

### Air and Humidity (10)

Throughout this series on Air and Humidity, there is one term that has been carefully and purposely avoided, for it merely serves to confuse until everything else is fully understood. This term is the Wet Bulb Temperature.

In all of our previous discussion we have referred to Dry Bulb Temperatures, which are those temperatures that are read on an ordinary thermometer. The wet bulb thermometer is the same as a dry bulb thermometer except that the wet bulb thermometer has its bulb wrapped with a cloth or wick that is wet and is kept wetted.

Air is blown over the wet wick-covered bulb or it is whirled in the air to create an air movement over the wet bulb. A dry bulb thermometer and wet bulb thermometer mounted together, is called a psychrometer.

#### HOW WET BULB THERMOMETER WORKS

The wet bulb thermometer is affected not only by the temperature of the air, but also by the evaporation of the water from the wet wick into the air. The drier the air, the more water will be evaporated from the wick; the more moist the air, the less water will be evaporated by the wick. If the air has 100% relative humidity, it can take up no more moisture, so the wick will evaporate no water into the air.

When the water evaporates from the wick into the air, the water is changed to water vapor, and the latent heat of vaporization is required to do this, so this latent heat is drawn from the water, and wick and from the thermometer bulb that it surrounds.

Therefore, the wet bulb thermometer is affected not only by the temperature of the air, but also by the amount of moisture it contains, or to be more accurate, the wet bulb thermometer is also affected by the withdrawal of heat required to vaporize the moisture. The drier the air, the more moisture is evaporated from the wick, and the more latent heat is required to do this. As a result, the lower is the temperature registered on the wet bulb thermometer.

The difference between the dry bulb reading and the wet bulb reading is called the "wet bulb depression." The lower the wet bulb reading, the greater is the depression, the drier the air, and the lower the relative humidity.

If the air becomes warmer, the wet bulb temperature rises, if the relative humidity remains the same or greater. If, at the same time that the air is heated, some of the moisture in the air is removed, the wet bulb temperature might remain the same or even read lower, although a dry bulb thermometer hanging beside the wet bulb thermometer would rise, due to the higher temperature in the air.

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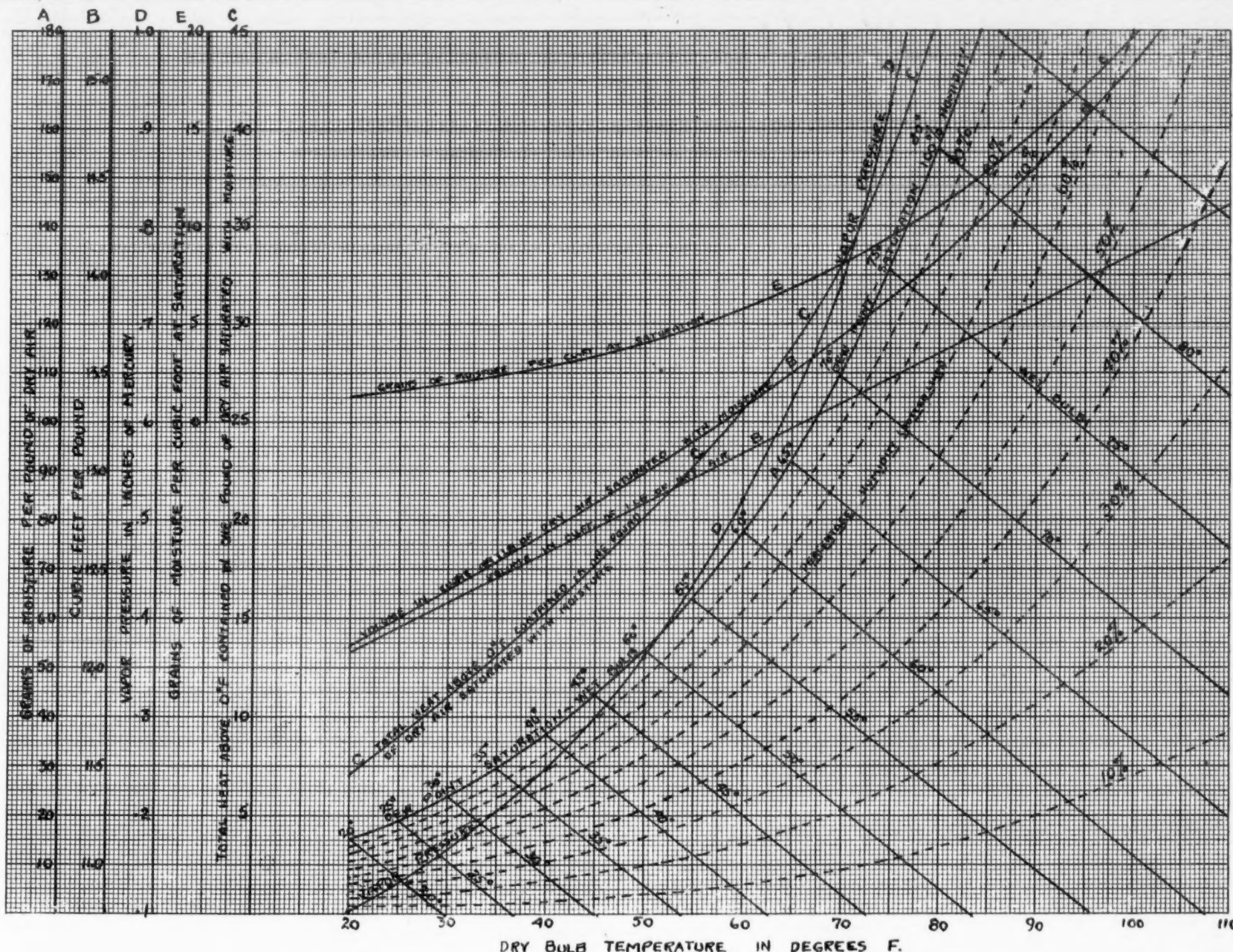


Fig. 3—Temperature-pressure chart with both dry bulb and wet bulb temperatures.

#### WET BULB IS INDEX TO TOTAL HEAT

So the wet bulb temperature is an index of the heat content of an air and water vapor mixture. If the wet bulb temperature rises, it is because the total heat of the mixture is greater. This may be due to the air becoming warmer (higher dry bulb temperature) or to a greater water vapor content.

If the wet bulb temperature remains the same, it is an indication that the total heat of the mixture remains constant. The dry bulb temperature may change, upward or downward, or the moisture content may change, less or more, but as long as the change of one is offset by an opposite change in the other so that the total heat content is the same, the wet bulb temperature remains constant.

For example, the wet bulb temperature is the same, 55° F., for all three of the following conditions:

1. 85° Dry Bulb, 6.6% Relative Humidity, 15° Dewpoint and 16 grains Absolute Humidity.
2. 70° Dry Bulb, 36.2% Relative Humidity, 42° Dewpoint and 40 grains Absolute Humidity.
3. 60° Dry Bulb, 82% Relative Humidity, 51° Dewpoint and 55 grains Absolute Humidity.

Since the wet bulb is the same for all of these conditions, 55°, the total heat is the same, 23.2 B.t.u. per pound of dry air with its saturated water vapor.

The proportions of sensible and latent heats are different for these three conditions, for the dry bulb and dewpoint temperature different and the amount (weights) of moisture are different for these three conditions. Thus:

1. Sensible Heat 20.66 B.t.u., Latent Heat 2.54 B.t.u.
2. Sensible Heat 17.02 B.t.u., Latent Heat 6.18 B.t.u.
3. Sensible Heat 14.58 B.t.u., Latent Heat 8.62 B.t.u.

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The wet bulb temperature is therefore an index of the total heat of the mixture of the air and water vapor. Wet bulb temperature lines on the psychrometric chart start at the dewpoint curve A, for at saturation and 100% relative humidity, the dewpoint and wet bulb temperatures are the same. They cross the RH curves, so that the lower the humidity, the higher the dry bulb temperature must be in order to make up for the lesser humidity and still keep the same total heat.

(To Be Continued)

#### Effect of Materials Cuts--

(Concluded from Page 1, Column 5) which steel producers have to set aside for filling "DO" priority orders.

##### STEEL

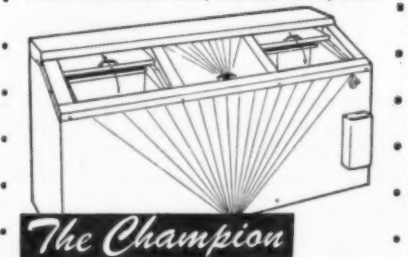
Steel tonnage available for general distribution is steadily shrinking "and this is only the beginning," the magazine *Steel* reports.

"Allocations are piling upon allocations with resulting confusion in mill order acceptances and scheduling," the report added. "January steel output already is committed virtually 100% against rated orders and expected heavy carryover."

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*The Champion*

#### No 'Contracts' Section This Week

Because of the necessity of going to press early due to the Thanksgiving holiday, the **NEWS** regrets the necessity of omitting a tabulation of Government contracts open for bids as well as those which have been awarded during the past few weeks.

This regular feature will be resumed in the next issue.

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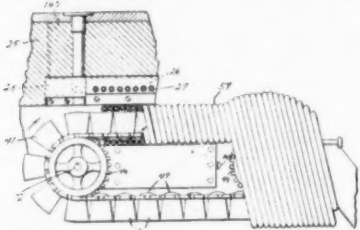
**THE HEAT-X-CHANGER CO., INC.**  
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## PATENTS

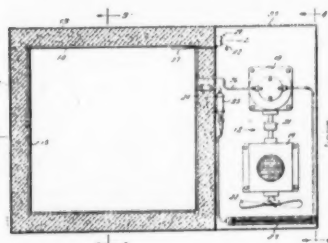
Week of June 6  
(Continued)

2,510,400. ICE-CUBE DISPENSING MACHINE. Frederick A. Hurley, Miami, Fla.



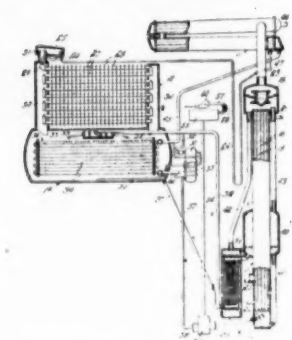
8. An ice cube dispensing machine comprising a conveyor, containers, for ice cubes on said conveyor, means for ejecting the cubes from the containers, and a motor for intermittently moving said conveyor comprising a drive sprocket shaft for said conveyor, a ratchet wheel affixed to said shaft, a pawl engaged with said ratchet wheel, a floating pawl carrier on said shaft beside said ratchet wheel, a solenoid connected to rock said pawl carrier in one direction, and a spring connected to the pawl carrier to be placed under tension on the solenoid movement of said pawl carrier to return the pawl carrier to at-rest position when the solenoid is de-energized.

2,510,527. PORTABLE REFRIGERATING UNIT. Harry F. Solomon, Macon, Ga.



A portable refrigerating unit comprising a frame, a refrigerating compartment connected to the frame, refrigerating equipment connected to the frame adjacent to the compartment and connected to the same to extend refrigerating medium thereto, a cover at the top of the refrigerating compartment, and a hood hinged to extend over the refrigerating equipment on said frame, whereby to provide a refrigerating unit which is compact with all the parts mounted on a single frame, and said refrigerating equipment comprising a compressor secured to the frame, a gas engine coupled to the compressor to drive the same, a fan driven by the engine, a condenser disposed on the frame adjacent the fan of the engine whereby air will be extended over the same, and said gas engine including an ignition plug, a switch connected to the ignition plug and to the ground for the engine, a thermal element extending into the cooling compartment and connected to the switch for the operation of the switch when the temperature within the refrigerating compartment has been lowered to a predetermined extent, and the operation of the switch causing the grounding of the ignition current to stop the engine.

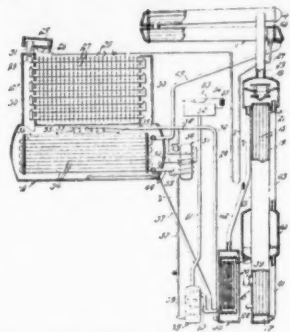
2,510,730. LOW-PRESSURE ABSORPTION REFRIGERATING SYSTEM. Eugene P. Whitlow, Evansville, Ind., assignor to Servel, Inc., New York, N. Y.



1. A refrigeration system of a low pressure absorption type having a device for withdrawing non-condensable gas from the system, means to measure the withdrawn gas, a device for propelling back into the system all gas withdrawn up to a predetermined quantity, and means for exhausting to the atmosphere any excess

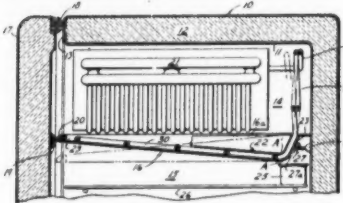
of withdrawn gas beyond said predetermined quantity.

2,510,737. REFRIGERATION APPARATUS, INCLUDING MEANS FOR LIMITED REMOVAL OF NON-CONDENSABLE GASES. Ralph M. Buffington, Evansville, Ind., assignor to Servel, Inc., New York, N. Y.



1. An absorption refrigerating system having a generator and condenser operable at one pressure and an evaporator and absorber operable at a lower pressure, means interconnecting said elements to provide closed circuits for the circulation of a refrigerating medium and an absorption solution, said last named means including conduits for flow of absorption solution from the generator to the absorber and back to the generator, said conduits including means for withdrawing non-condensable gases from the absorber, a contact vessel into the lower portion of which said last named means delivers non-condensable gases and absorption solution, and a plurality of bubble traps in said contact vessel through which the absorption solution flows, the construction and arrangement being such that non-condensable gases are dissolved in the absorption solution, which solution is conveyed to the bottom of the general wherein the non-condensable gases reduce superheating and promote quiet boiling of the solution in the generator.

2,510,758. REFRIGERATOR HAVING A Baffle Structure. Theodore W. Bundell, Abington, Pa., assignor to Philco Corp., Philadelphia, Pa.

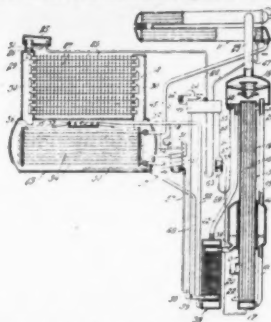


3. In refrigeration apparatus, a cabinet having walls defining a storage zone, cooling means within said zone and adapted to refrigerate at least a portion thereof, partition structure comprising a pan-like member normally disposed in relatively close juxtaposition to said cooling means in a position such as to prevent ready access to the space between said cooling means and said pan-like member, means pivotally mounting the rear portion of said member to provide for rotational movement of the latter from the said normal position to a lower position in which ready access is afforded to the space between said structure and the overlying cooling means, and resilient means restraining said member against such rotational movement, said member being rotatable against the action of said resilient means and in response to pressure exerted downwardly against the forward portion of said member.

2,510,763. LOW-PRESSURE ABSORPTION REFRIGERATION. Clifford E. Skomp, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application April 8, 1947, Serial No. 739,999. 9 Claims. (Cl. 62-119.)

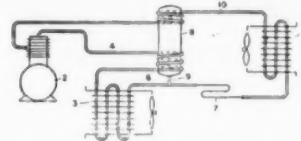
1. An absorption refrigerating system of the two-pressure type including a generator, a condenser, an evaporator, an absorber and conduits interconnecting said elements for flow of a refrigerating medium and an absorption solution, a primary purge pump for withdrawing non-condensable gases from said refrigerating system, a reservoir for receiving and storing said withdrawn non-condensable gases, and an auxiliary purge pump connected to the reservoir and one of the

conduits for withdrawing a portion of the stored non-condensable gases and delivering them for flow through said refrigerating system.



ing them for flow through said refrigerating system.

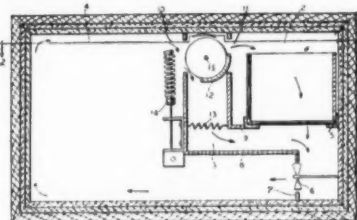
2,510,881. REFRIGERATION SYSTEM. Karl M. Gerteis, Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y.



1. In a refrigeration system, the combination of a compressor, a condenser, a heat exchanger, a line connecting the condenser and the heat exchanger, a restriction disposed in said line adapted to meter the flow of refrigerant to the exchanger, an accumulator connected to said line upstream from said restriction, a section of the line connecting the compressor and the condenser being placed in heat exchange relation with the accumulator, and a suction line connecting the heat exchanger and the compressor, a section of said suction line being placed in heat exchange relation with the accumulator, the sections of said lines in heat exchange relation with said accumulator being so proportioned that excessive flow of refrigerant to the heat exchanger causes refrigerant from the system to enter the accumulator while insufficient flow of refrigerant to the heat exchanger forces refrigerant from said accumulator to increase the refrigerant flow through the system.

Week of June 13

2,510,952. TEMPERATURE TESTING CHAMBER. Leslie A. Brewster, Dayton, Ohio.

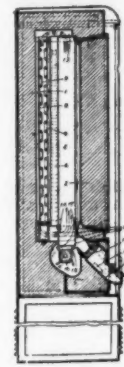


1. A testing cabinet comprising, in combination, a testing chamber, a cooling chamber, a heating chamber extending from the front through to the rear of said cabinet between said testing and cooling chambers, said heating chamber being provided with aligned openings for the flow of air from said testing chamber into said heating chamber and across said heating chamber into said cooling chamber, means for circulating air from said heating and cooling chambers into said testing chamber, and unitary valve means having a plurality of positions for regulating said air flow from said testing chamber, said valve means being selectively and progressively variable from a first position in which all the air flowing from said testing chamber is cut-off, to a second position in which all the air flows from said testing chamber into said cooling chamber, to a third position in which all the air flows from said testing chamber into said heating chamber, said valve means being variably positionable between the aforementioned positions for proportioning the flow of air from said testing chamber within the limits set by the aforesaid positions.

2,511,076. COIN-FREED ICE-CREAM VENDING MACHINE. William Horace Partridge, London, England.

1. An automatic vending machine for refrigerated products requiring to be stored at a temperature not higher than 0° C., comprising a container formed with heat insulating walls, an associated refrigerating machine for cyclically operating a refrigerant in a closed-circuit including a cooling tube through which the refrigerant passes, a service compartment within said container for holding the stored products ready for delivery, an air-cooling compartment within said container, separate and distinct from the said service compartment, the lower ends of said two compartments being substantially at the same level, the two compartments communicating with one another both at their upper ends and at their lower ends in order to allow a circulatory flow of air through the compartments, supporting means in said air-cooling compartment for supporting the cooling tube of said refrigerating machine therein completely spaced from the walls of the air-cooling compartment to allow airflow between said tube and walls, a third compartment below the lower communi-

cating end between said air-cooling compartment and said service compartment, a heat-insulating partition separating said third compartment from said air-

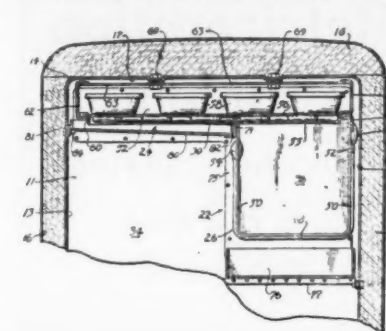


cooling compartment, means in said third compartment for causing ejection of said products, as required, from said service compartment, and an outlet passage through which products from the base of the service compartment can be removed from the machine.

2,511,125. REFRIGERATING APPARATUS HAVING MEANS FOR DISPOSAL OF DEFROST WATER. Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich.

1. Refrigerating apparatus comprising, a cabinet having a compartment, heat absorbing evaporator means in said compartment, said heat absorbing evaporator means including a box-portion forming a food freezing compartment and a laterally extending portion dividing the cabinet compartment into an upper ice making compartment and a lower cooling compartment, a drip pan immediately

below said box portion, and a drip baffle immediately below said laterally extend-



ing portion arranged to effect flow of water dripping thereon to said box portion.

(To Be Continued)

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MAN WITH air conditioning, commercial & domestic refrigeration experience, wishes position with manufacturer as field service representative, or service manager for distributor. Fourteen years operating own business. Age fifty, own home in Massachusetts. No degree but plenty of practical working and business knowledge to compensate. BOX 3620, Air Conditioning & Refrigeration News.

I HAVE been active in the refrigeration industry for the past fifteen years. Have considerable experience in all phases of commercial refrigeration and air conditioning. Five years as service manager for large midwestern distributor. One year as factory service engineer. Two years factory district sales manager. Looking for permanent home with a manufacturer or distributor. BOX 3621, Air Conditioning & Refrigeration News.

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Because of the policy set up by Air Conditioning & Refrigeration News, requesting us not to mention manufacturers' names, please write for detailed specification sheets and manufacturer's name on following three advertisements.

COMPRESSOR BODIES, brand new: model #19, good up to 1-HP. @ \$45. each; includes flywheel and one service valve. Write for circular. MANN REFRIGERA-

TION SUPPLY CO., 15 Astor Place, NYC, GRamercy 3-8000.

35 GALLON pressure type water cooler, model L-26; brand new, unused; special close-out price \$265.; original cost \$425. Subject to prior sale. MANN REFRIGERATION SUPPLY CO., 15 Astor Place, NYC, GRamercy 3-8000.

1/4-HP. open type units "F-12," complete with 1/4-HP standard brand motors, less receivers; brand new in original crates; specially priced at \$41.95 each. NEW YORK REFRIGERATION CO., 35 East Fourth Street, New York 3, N. Y.

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ENGLISH MANUFACTURERS of domestic refrigerators either complete or hermetic and absorption type units and evaporators separately for local assembly, wishes to contact lively agents in all U.S.A. states. Make use of devaluation while it lasts. Airmail at once for free lists and particulars. LONGFORD ENGINEERING CO., LTD., Dept. A.C., Bognor, Regis, Sussex, England.

FOR SALE—Because of ill health will sell for inventory one of the largest store fixture and appliance businesses in Middle West. Located in Indiana. Our business last year grossed \$260,000.00 and we paid net income tax of \$18,376.63. This year of 1950 our gross will show \$350,000.00 and we should show net profit \$25,000.00 and be forced to pay tax on this figure. We operate six brand new trucks, have large four-story modern fireproof building under lease with 16,000 sq. ft. floor space. Modern elevator 18 ft. long lifts 8,000 lbs., makes the building the most ideal type for this kind of operation. We have the best lines to sell, the best sales and service organization in this part of the country. Will sell business for inventory only at invoice prices. If interested write BOX 3597, Air Conditioning & Refrigeration News.

FOR SALE: Well-established commercial refrigeration service business in city of 30,000 in state of Florida. Good following. Will inventory about \$4,000. Agencies for good commercial lines. Disability reason for selling. Good location leased for three years. Reasonable rent. BOX 3622, Air Conditioning & Refrigeration News.

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of sensational bargains)



Table 5—Model 150-FCW

85° F. CONDENSER WATER OUT

Condenser Cooling Water				Cooling Range			
Inlet Water (°F.)	Minimum Water Pressure Required Lb./Sq. In.	Outlet Water (°F.)	Water Rate Gal./Hr.	Evaporator Air Inlet Temperatures D.B. (°F.)	W.B. (°F.)	Temperature Split (Air In—Air Out) Min. D.B. Max. D.B. (°F.)	
55	10	85	100	95	79	15	18
					75	17	20
					71	18	21
					67	19	22
60	10	85	120	90	79	11.5	14.5
					75	15	18
					71	16	19
					67	18	21
65	10	85	150	85	79	7.5	10.5
					75	11.5	14.5
					71	15	18
					67	17	20
70	15	85	200	80	75	7.5	10.5
					71	11.5	14.5
					67	15	18
					63	17	20
75	35	85	300	75	71	6.5	9.5
					67	10.5	13.5
					63	14	17
					59	16	19
				70	67	5.5	8.5
					63	9.5	12.5
					59	12.5	15.5

POWER CONSUMPTION (For any inlet water temperature and 85° water out): Fan power, 200 watts. Total power (fan and two units): Minimum, 1,650 watts; Maximum, 1,900 watts.

Table 6—Model 150-FCW

95° F. CONDENSER WATER OUT

Condenser Cooling Water				Cooling Range			
Inlet Water (°F.)	Minimum Water Pressure Required Lb./Sq. In.	Outlet Water (°F.)	Water Rate Gal./Hr.	Evaporator Air Inlet Temperatures D.B. (°F.)	W.B. (°F.)	Temperature Split (Air In—Air Out) Min. D.B. Max. D.B. (°F.)	
60	10	95	82	95	79	14	17
					75	16	19
					71	17	20
					67	18	21
65	10	95	96	90	79	11	14
					75	14	17
					71	15	18
					67	17	20
70	10	95	115	85	79	7	10
					75	11	14
					71	14	17
					67	16	19
75	10	95	145	80	75	7	10
					71	11	14
					67	14	17
					63	16	19
80	15	95	191	75	71	6	9
					67	10	13
					63	13	16
					59	15	18
85	30	95	286	70	67	5	8
					63	9	12
					59	12	15

POWER CONSUMPTION (For any inlet water temperature and 95° water out): Fan power, 200 watts. Total power (fan and two units): Minimum, 1,800 watts; Maximum, 2,050 watts.

## Servicing the New Philco Room Air Conditioners

### PART 7 How To Check Performance Of Water-Cooled Models

#### PERFORMANCE CHECKS AND TEST TABLES—WATER-COOLED MODELS

Tables 5 through 10 are to be used for determining the operating efficiency of models 150-FCW and 200-FCW. The "Cooling Range" portion of these tables is similar to those shown in Table 3 for use with air-cooled models. The water-cooled performance tables also include inlet and outlet condenser water temperature, water pressure required, water rate, and power consumption. It should be borne in mind that models 150-FCW and 200-FCW contain two complete refrigerating systems. For best results, it is recommended that each of the two units be checked independently, as explained below.

Assuming that the performance of model 150-FCW is to be checked, the following procedure should be used:

1. If room temperature is below 80°, hang a light bulb next to the thermostat bulb on the rear of the unit. This will cause both units to operate when the power switch is turned to the "Cool" position.

2. Next, it will be necessary to determine the condenser water outlet temperature, as previously explained.

3. The condenser water outlet temperature will determine which table is to be used for the performance

check. For instance, assume that the temperature is found to be approximately 95°; it will then be necessary to use Table 6.

4. Support a psychrometer in the evaporator air inlet stream of the first unit to be tested. Be sure that the wick-covered bulb is wet. Place the bulb from the refrigeration tester in the center grille of the conditioned air outlet. After the temperatures have become stabilized take the readings from both the wet and dry-bulb thermometer and the refrigeration tester.

THE EVAPORATOR AIR INLET AND AIR OUTLET READINGS SHOULD BE TAKEN AS NEAR THE SAME TIME AS POSSIBLE.

The difference between the dry-bulb readings of the evaporator air inlet and air outlet should be compared with the standard values shown in the Cooling Range column of Table 6. If the test and table values are not exactly the same, use the nearest table values.

Example: Assume that the following readings have been taken from one unit of the 150-FCW under test.

Evaporator air inlet dry-bulb temperature—90°.

Evaporator air inlet wet-bulb temperature—67°.

Conditioned air outlet dry-bulb temperature—70°.

a. Find 90° (D.B.) under evaporator air inlet temperatures in Table 6.

b. Adjacent to 90° in the W.B. column, find 67°.

c. Read to the right of 67°, and find the values 17—20.

This data shows that if the evaporator is reducing the temperature of the air passing through it at least 17°, and not more than 20°, the unit is operating normally, for the existing conditions. Remember that the 17° dry-bulb temperature range is the minimum allowable "split" for these conditions.

For the unit under test, the evaporator dry-bulb cooling range was 20° (90° at the evaporator inlet minus 70° at the conditioned air outlet). Since this value is within the listed range, 17—20°, the unit may be considered to be operating normally. Repeat this test in the same way for the second unit contained in this air conditioning unit.

(To Be Continued)

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## Juron Electric Buys Niagara Falls Site To Centralize Setup

NIAGARA FALLS, N. Y.—Purchase of the property at 402-408 Niagara St. by the Juron Electric Co., 520 Niagara St., was announced by John A. Juron, who said the building will be used for a new electric appliance store. The property is assessed at about \$20,000.

Juron said that eventually both the company's present stores will be consolidated in the Niagara St. building.

## Refrigeration Units WANTED

Desire to purchase 1/8 to 1-HP Sealed or open type; standard brands; Complete condensing units; Also parts; Give full details.

HARWOODE EXPORT CO.

31 E. 4 Street, New York 3, N. Y.



## Dealers Hesitate To Blame Reg. W--

(Concluded from Page 1, Column 4)

thinks a lot more before making a purchase when he has to plunk down a large cash payment than when he only has to sign a contract.

"There is more money in circulation and more people employed than ever before. So the dealer who has the right product and a real selling organization is going to come through very nicely. And I think we will have a sounder appliance business than ever before."

In keeping with this philosophy, Kimball said that he is putting even more emphasis of sales training for his men.

Another old-timer on the local appliance scene, Donnell R. Shoffner, head of Shoffner's, reported that sales have dropped off recently. However, he was uncertain of the exact cause.

"Fundamentally," he remarked, "Regulation W is a good thing. I hope that down payments will always be required. It will put the business on a sounder basis."

"But I can't quite understand why it is hurting so much now. It didn't hurt like this before. However, it might be due to general business conditions than Regulation W. I don't believe we should blame the regulation entirely."

Shoffner said he did feel that perhaps consumers should be given a longer time in which to pay for appliances. But he indicated he would be opposed to a return to low down payments. He thinks business will pick up when the public becomes used to the new terms.

There was no doubt in the mind of one dealer—Jerry Ritter, head of the company of the same name—about the effect of Regulation W.

"Absolutely, it has hurt business," he asserted. "It has crowded the low-income customers out of the market. The 25% down payment is just too big a hunk for them to pay. And 15 months to pay is not long enough. Eighteen months would be about right."

### OFFERING LAYAWAY PLAN

In an effort to counteract the stiffer terms, Ritter is offering to lay away appliances for a deposit as low as \$5. The offer is being included in current advertisements. Copy in a box in a recent advertisement promoting television receivers said:

"Convenient Lay-A-Way makes it possible for you to take advantage of this great savings. Small modest down payment will hold any article for you. Pay weekly until required down payment has accumulated. Buy your TV set and appliances NOW."

Ritter said there has been no notable reaction to the plan as yet, although it has brought in some customers. However, he pointed out that he has not tried to push the idea. A few doors down Military Ave.—in a block that contains five appliance outlets on the same side of the street—Norman M. "Long Deal" Gaffney said business was off more in Port Huron than in surrounding areas. But he wouldn't put the finger on Regulation W. "It's due to a series of things," he speculated.

He cited the situation in Korea as being the greatest deterrent to sales, adding: "If this situation cleared up tomorrow, I think people would start buying again."

He also named confusion over Regulation W terms as scaring people away from the store. Many people think they must pay a much larger down payment than is actually the case, he believes.

Gaffney said he favors regulation of instalment credit because it puts him on even terms with chain-store competition. But he feels that 15% down and 24 months to pay would be more reasonable than at present.

"If it is the government's intention to cut down sales, they have certainly succeeded," he affirmed.

### 'CUSTOMERS WON'T RESPOND'

Consumers just won't respond to any kind of promotional activity, according to Gaffney. They aren't even having the usual Christmas gifts laid away, he noted.

The dealer pointed to a display in his window offering a free Thanksgiving turkey with the purchase of a range. "They're just not interested," he lamented.

Leo Zimmer, partner in Murray & Zimmer, didn't know whether Regulation W "or several million other things" were to blame, but "business is really dead." He said 25% down with prices "what they are today" is "a little bit rough," but added:

"I can't believe Regulation W is responsible for the sudden stop in business."

Still, Zimmer went on, in former years he has sold as many as 22 refrigerators at Christmas time with little or no down payment. In one year, the first payment was postponed until April—and every sale "stuck."

This year, the wife will spend the Christmas savings, as usual. But she isn't going to take \$75 out of that fund to put down on a refrigerator. And her husband hasn't got that much extra for her Christmas gift.

Zimmer said he has run advertisements recently offering liberal trade-in allowances. But no one has even bothered to find out what "liberal" meant, he declared. He said he thought many people have a mistaken idea as to how much must be paid down on a major appliance—and are holding off buying.

Zimmer was at a loss to understand why the government requires cash down in addition to a trade-in. He argued that a trade-in should be as good as cash.

"What's the difference," he asked, "whether a customer sells her used appliance and gives us the money or gives us the appliance itself?"

Zimmer, like the other dealers, admitted that his warehouse was stuffed with appliances, giving him a complete fine well backed up. He indicated that he was not going to buy another thing this year.

Russell Muma of Stinson's Appliances doubted that Regulation W has had any decided effect on sales. He considers the 10% tax on television more harmful than credit restrictions.

## NEMA '51 Plans--

(Concluded from Page 1, Column 3)

reasons:

"First, to minimize the dislocation of labor in its transition from civilian to defense production.

"Second, to maintain a constant, though perhaps limited, flow of products through all retailers, large and small, who, in total, form a great force in stabilizing the production of our factories and shouldering a sizeable share in the nation's tax burden, and

"Third, to maintain the growth of the new electric appliances which contribute to our ever-rising standard of living."

For the long haul, population trends, extension of power lines, new product development and better wiring all point to a vast and continuing expansion of the electrical industry, declared Charles T. Lawson, vice president of Nash-Kelvinator who is concluding a year as president of Nema.

While population is increasing, the number of families is growing at an even faster rate, Lawson said, because of the trend to smaller family units. Also, he said, people are living longer and enjoying better health, with the result that a larger percentage of older people are maintaining separate homes, apart from their children.

New chairmen of the various appliance sections included: Refrigeration Section, E. B. Derr, International Harvester Co., chairman; W. F. Ogden, Hotpoint, Inc., vice chairman; Home and Farm Freezer Section, Ben G. Sanderson, Deepfreeze Appliance Div., Motor Products Corp., chair-

man; C. K. Rieger, General Electric Co., vice chairman; Electric Range Section, G. L. Rees, Gibson Refrigerator Co., chairman; H. J. Holbrook, Norge, vice chairman; Electric Water Heater Section, C. A. Bemis, Sepco Corp., chairman; Stanley Wolkenheim, A. O. Smith Corp., vice chairman.

To further carry on its selling efforts, the Freezer Section will continue to promote the installation of home freezers in schools for the teaching of this modern method of food preservation. An advertising campaign will be carried on in publications reaching home economics teachers. This advertising will feature the new home freezer manual—"The Home Freezer Way To Better Home Management"—prepared by authorities in the home economics field.

Based upon research from authoritative sources, it includes the latest in freezer teaching techniques.

An additional campaign will consist of advertisements addressed to school boards and school management officials in publications reaching these fields, emphasizing the need for installing home freezers in schools to facilitate the teaching of this modern home economics subject. These will feature testimonials from schools now having such installations and using them to advantage.

The Electric Range Section is planning to continue with an advertising and promotional activity at the current level.

The campaign in architectural and builder publications will stress and emphasize the advantages to builders of installing electric ranges in the new homes they build, and will use testimonials from builders who have sold completely equipped homes

to prove that point.

The teaching of electric cooking equipment will also be aided by an advertising campaign to home economics teachers through publications in that field, featuring recipes by nationally known home economists. In addition, the section's new Educational Aids Kit is being promoted through electric service companies for school use, by means of a direct mail campaign.

This kit was tested earlier in the year through a pilot program in 1,500 schools and found extremely successful. It includes film strips and collateral material which tells a complete story of the modern, automatic electric range and its use, visually and clearly. This kit is ideally suited not only for use in schools and colleges, but with consumer groups as well.

The Electric Range Section will also conduct an advertising campaign in publications reaching school boards and supervisory officials explaining the need for the installation of modern, automatic electric ranges in school economics laboratories. Each advertisement will offer free, a home economics laboratory floor plan booklet titled "The Modern Home Economics Department."

Electric water heaters will again be promoted to the building field through architectural and builders publications. This advertising will feature testimonials of actual builders who are installing electric water heaters in the new homes they build.

The advertising to electric appliance dealers and plumbers will have harder selling messages than ever. They will be reminded of the tremendous market for electric water heaters and the selling advantages of this appliance.

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